

The
Architects
Compendium



and
Complete Catalogue

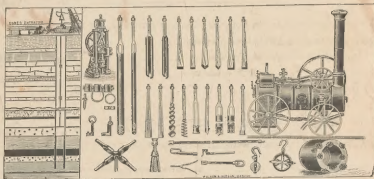
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LEGAL INFORMATION.

Attention is drawn to the Legal Information on pages 652 to 664. We shall be happy to answer any questions bearing on the Building Law, if forwarded to us, addressed:

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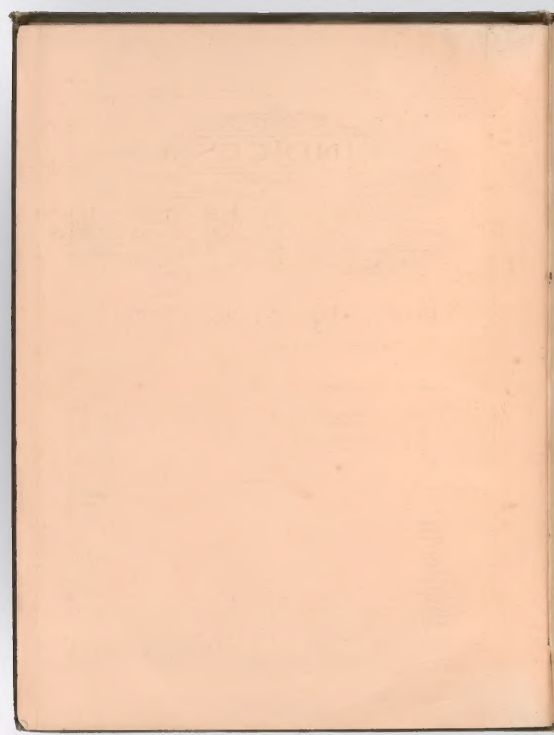
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Waring, S. J., & Sons, 43-45, Bold Street, Liverpool	181A, Oxford Street, London, W., 128, Deanigate, Manchester
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Wragge & Sons, Wurdley Works, Salford, Manchester; 22, Surrey Street, Strand, London, 17, Lower Sackville Street, Dublin; 4, Tempest Chambers, Tempest Hey, Liverpool	487
Wright, Geo., & Co., 155, Queen Victoria Street, London, E.C.; Rotherham	222, 250, 427-429, 490
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Young & Allan, 4, George Place, Leith Walk, Edinburgh	516
Young & Co., 12, Victoria Street, Westminster, London, S.W., 71, Monsey Street, Manchester	482
Young, H. & Co., Ecclestone Iron Works, Pimlico, and Hayle Foundry Wharf, Nine Elms, London, S.W.	139, 224

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ACME VENTILATING & HEATING CO.	Keyworth, Liverpool (187)	BLACKWALL GALVANIZED IRON CO. LD.	Prompton, London (11064).
ACRES Wood Flooring Co., LD	A B C. Code used	BLAIR & CO.	Stardens, Glasgow (4506)
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"	Gasteries, London.	JOHNSON, J. & Co.	Johns, Walsw. Wood.
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		JOHN, W. & F.	Hotties, London
			Slagwood, London.
			James, Jackfield.
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		KEY "WM."	Arbroath
			Ventilation, Glasgow.

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ROSSER & RUSSELL, Ld.	Leamington, London (3520); Offices: and 7331, Woking, Hammer-smith, Birmingham.	TWYFORD, T. W.	Twyford, Hanley (Nat., 45)
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SCHMIDT, C. M.	Adornment, London.	WALKER, HENRY, & SON, Ld.	Reklaw, Newcastle-on-Tyne (503 P.O.; 1354 National)
SCOTT, E. & MOUNTAIN, Ld.	Esco, Newcastle-on-Tyne (432)	WALTON, F. & Co., Ld.	Lucerista - Walton, London 3769
SELF LOCK ROOFING TILE CO.	Weatherwise, London.	WARD, B. & Co.	T. L., on lco.
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SICKLAND, E. H. & BROS	Warming, Manchester. (Nat. 2188)	WELLS & FANGBORNE	Faence, London
SILLA, W. H.	Sills, Mansfield	WELSH & CO.	Pangbourne, Easton Portland
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"	" Tamworth.	WHITHEAD J. & SONS	Wheatly, Trentvale.
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SMITH JONAS & Co.	Moulding, London (4595)	WHITWICK COLLIERY CO., Ld.	Sales, Birmingham (641).
"	Pinetree, Liverpool.	WILKINS, H. W. & SONS	" London
SOMERSET TRADING CO., Ld.	Somerset, Bridgewater (Nat. 9)	WILKESON PAPER AND CANVAS WORKS	Whitwick Colliery, Coalville. Statuary, London.
"	Stanley, Newcastle (12).	WILLIAMS ALFRED & Co.	Impermeable, London.
STANLEY, J.	Lids, London	WILLIAMS BROS & Co.	Ventulus, London.
STANLEY & J. P. STEVENS	Jefferson, London	WILLIAMS BROS & Co.	Casements, Chester.
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STONES, JOHN	Stones, Rosend, Ulverston.	WIPPELL BROS & ROW	Glasgow, Liverpool (4520).
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TEMPLE, ROGERS, & Co.	Temple, Canon's Marsh, Bristol (27).	YOUNDS, JOHN, & Co.	Quintiers, London.
THOM, JOHN	Thom, Patricot	"	Lechland, London (3839)
THORPE, R. G. & SON	Blackstock, Liverpool (Nat., 486)	"	Wyndham, Rangoon.
THORNTON & WAITE GREEN SLATE Co.	Slate, Kendal	"	Yields, Glasgow (1278)
"	Tidley, Darlington.	"	"
TIDLEY, J.	Brass, Birmingham	"	"
TOLAN, Ld.	Infesto, London.	"	"
TREGGON & Co.	Treggon, London.	"	"
TREKETT, S. & SONS	Corsehill, London	"	"
TUCKER, G. & SON	Tucker, Loughborough	"	"

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KEY TO TELEGRAPHIC ADDRESSES.

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CRITALL, BRAINTREE ..	Critall Manufacturing Co., Ltd.	GOODDY, LONDON ..	Gooddy, Cripps & Sons, Ltd.
DABRY, COALBROOKDALE ..	Coalbrookdale Co., Ltd.	GOTCH, BIRMINGHAM ..	Glover, T., & Co.
DEPLAND, LONDON ..	Fireproof Construction Co.	GOTCH, BRISTOL ..	Glover, T., & Co.
DEGRELL, LONDON ..	De Grell, Houdret & Co.	GOTCH, LONDON ..	Glover, T., & Co.
DENHAM, ST. JOHN'S WOOD ..	Densham & Sons	GOTCH, MANCHESTER ..	Gloy, J. W., & Son
DEWINTER, LIVERPOOL ..	De Ridder, R. P.	GRANDSON, LONDON ..	Strat's Granolithic Stone
DEWENT FOUNDRY, DEEPTON ..	De Wint Fumery Co.	GRANDSON, LIVERPOOL ..	Co., Ltd.
DEKES, LONDON ..	Benett Furnishing Co.	GRANULITE, LONDON ..	Strat's Granolithic Stone
DIAPHRAM, LONDON ..	Lambeth Brass & Iron Co., Ltd.		Co., Ltd.
DINNING, NEWCASTLE ..	Dinning & Cooke	GRATER, EDINBURGH ..	Gray, Jas. & Son
DIURNATION, LONDON ..	Hart, Son, Peard & Co., Ltd.	GRAY, CHELSEA, LONDON ..	Gray, James
DIVINBLE, LONDON ..	Bank's Fireproof Construction	GRAVES, WARWICK ..	Graves, Bull & Lakin
	Syndicate, Ltd.	GRAVES, BIRMINGHAM ..	Graves, Bull & Lakin
DOWDOWES, LONDON ..	Bowes Scott & Western, Ltd.	GUEST, ROTTERDAM ..	Guest & Chimes
DOLGUTH, JACKFIELD ..	Doughty, John, & Sons	HADEN, TROWBRIDGE ..	Haden, G. N., & Sons
DOWELLED, LONDON ..	Asme Wood Flooring Co., Ltd.	HALL, SWADLINCOTE ..	Hall & Boardman, Ltd.
DEALDA, LONDON ..	Roberts, Adlard & Co.	HAMBLET, WEST BROMWICH ..	Hamblet, J.
DUCUTILITY, LONDON ..	North British Plumbing Co., Ltd.	HARDENED, LONDON ..	Pearson, R. H. & J., Ltd.
		HARTSHILL, STOKES-ON-TRENT ..	Hartshill Brick & Tile Co.
DULCERO, LONDON ..	Dowds, J. J.	HEAT, STOURBRIDGE ..	Jones & Attwood
DUNNELL, MANCHESTER STREET ..	Craven, Dunnell & Co., Ltd.	HATING, BIRMINGHAM ..	Stevens, A. H., & Co.
		HEATING, EDINBURGH ..	Ruthe, C., & Co.
		HEATING, LONDON ..	Messenger & Co.
		HELLIWELL, LONDON ..	Helliwell & Co., Ltd.
FINNES, LONDON ..	Elmer, J. F.	HERRING, LONDON ..	Damen & Washer & Co.
EDAPHOS, LONDON ..	Wood Block Flooring Co., The	HOBBS, HART, LONDON ..	Hobbs, Hart & Co., Ltd.
EDAPHOS, MANCHESTER ..	Wood Block Flooring Co., The	HOB, LEEDS ..	Ten's Fireplaces Co., The
EDUCATIONAL, LONDON ..	Educational Supply Association, Ltd.	HODGETON, LONDON ..	Moffat & Eastmed
EDWARDS, RIADON ..	Edwards, J. C.	HOLMES ENGINEERS, NOR ..	
EGYPTIAN, LONDON ..	Easton, Anderson & Gooldeen, Ltd.	HOLT, LANCASTER ..	Holmes & Sons, Ltd.
ELCO, LEICESTER ..	Ellis, Partridge & Co.	HOLT, LANCASTER ..	Holt, W. F. S.
ELIAS, LEICESTER ..	Ellis, J., & Sons, Ltd.	HOMAN RODGERS, LONDON ..	Homan & Rodgers
EMLEY, NEWCASTLE-ON-TYNE ..	Emley & Sons, Ltd.	HOTCHER, EDINBURGH ..	Wicks & Co.
EQUITATION, LONDON ..	St. Pancras Iron Works Co.	HOTTET, LONDON ..	Mackenzie & Mouch
ESCH, NEWCASTLE-ON-TYNE ..	Scott, E., & Mountain, Ltd.	HUTTON, LONDON ..	Jones & Attwood
ETURPE, LONDON ..	Eves & Co.	HUTTON, LONDON ..	Hudson, Thos.
EXLEY, BIRMINGHAM ..	Exley, Wm., & Sons	HYDRAULIC, LONDON ..	Smith, A., & Stevens
EXPANSION, LONDON ..	Mowland, R., & Sons	HYDRAULIC, ULVERSTON ..	Uverston Shutter & Lath Co., Ltd.
EVERELL, BIRMINGHAM ..	McNeill, F., & Co.	HYGIAN, ABERDEEN ..	White, W.
EVERELL, LONDON ..	McNeill, F., & Co.	HYGIANIC, LONDON ..	Hendry & Pattinson
FATENCE, LONDON ..	Webb & Co.	IDEAL, LONDON ..	Killick & Cochran
FAMBRIN, LONDON ..	Fambrin & Daniels	IMPERMEABLE, LONDON ..	Wilkeson Paper and Canvas
FELTINGS, LONDON ..	Engert & Rolfe, Ltd.		Works
FENCING, BRIGHTON HILL ..	Hill & Smith	INCORPORABLE, LONDON ..	United Asbestos Co., Ltd.
FENESTRUE, LONDON ..	N. A. P. Casement Co., The	INMAN, LONDON ..	Michell, Inman, & Co.
FENESTRUE, LONDON ..	N. A. P. Window Co., The	INTERCEPT, CARDIFF ..	Cousens, G. & F.
FENESTRUE, LONDON ..	British Fireproof Construction Co.	INWORTH, LONDON ..	Aston, G. & Son
FERREROS, LONDON ..	Metallic Paving & Artificial Stone Co., Ltd.	IRON, LEICESTER ..	Ashwell & Nesbit
		IRON, MANLEY, SALOP ..	Manley Wood Co.
FIFTH LINE ..	Field & Allas	IRONWORK, EDINBURGH ..	Sell, F., & Son
FIREPROOF, MANCHESTER ..	Phoenix Fireproof Flooring Co.	ITTER, OLD FLETTON ..	Iter, A. W.
FLOORING, LOTS ROAD CHELSEA ..	Westminster Patent Flooring Co.	JAMES HILL, LONDON ..	Hill, James & Co.
FROGHALL, ABERDEEN ..	McDonald, Chas.	JAMES KEITH, LONDON ..	Keith, James
		JAMES KEITH, ABERDEEN ..	Keith, James
		JEFFERIES, LONDON ..	Steinitz & Jefferies
		JOBNSON, WALSALL WOOD ..	Johns, J., & Co.
		JOHN GRUNDY, LONDON ..	Grundy, J.
		JOHN, BIRMINGHAM ..	Parker's Ltd.
		JOHN, JACKFIELD ..	Jones, W. & P.
		JOS. HILL, LONDON ..	C. O. J., & Sons
GARDSON, BRISTOL ..	Gardner, Sons & Co.	KALYARDS, LONDON ..	William, Bros. & Co.
GARVIE, ROSE ST. ABERDEEN ..	Garvie, J., & Son	KELVIN, GLASGOW ..	Mais, A. & J., & Co., Ltd.
GASKIER, LONDON ..	Fletcher, Russell, & Co., Ltd.	KELVIN, LONDON ..	Mais, A. & J., & Co., Ltd.
GASKIER, WARRINGTON ..	Fletcher, Russell, & Co., Ltd.	KELVIN, LONDON ..	Acme Ventilating & Heating
GENUINE, LONDON ..	Gregory, T., & Co.		Co.
GILSON, W. L. LONDON ..	Gibbons, J.	KILLERS, MIDDLETON, WIR ..	
GLASS, BIRMINGHAM ..	Paton, Wm., Ltd.		
GLASSMAN, LIVERPOOL ..	Williams & Watson	KING CO, LYE ..	Killer Bros
GLASSVENT, LONDON ..	Moore, J.		King, Jos. & Co.
GLAZING, LONDON ..	Rendle, W. R., & Co.		
GLAZING, Huddersfield ..	Heywood, W. H., & Co.		
GODDARD, FARNHAM ..	Goddard & Sons		
GODWIN, WITTINGHAM, HERT ..	Godwin & Sons		
GODDY CRIPPS, LIVERPOOL ..	Gooddy, Cripps & Sons, Ltd.		

LEA, TUNSTALL ..	Lea & Boulton	LEWERS, LUTON ..	Peebles, D. B., & Co.
LEEDS, MANCHESTER ..	Leach Bros. & Co.	FERNWOOD, GLASGOW ..	Pennycook, Patent Glassing and Engineering Co., Ltd.
LEA, BRISTOL ..	Lee, Arthur, & Bros., Ltd.		Perry & Co.
LEEDS, BIRMINGHAM ..	Rosser & Russell, Ltd.	PERPIEREY, LONDON ..	
LEEDS, LONDON ..	Rosser & Russell, Ltd.	PHILLIPS, GUILDFORD, CHAMBERS, E. C.	Phillips, A. J., & Co.
LEAS, KINGTON LINDSEY ..	Parry, H., & Co.	PHINNEY, ST. STOCKTON ..	Summerscales & Sons, Ltd.
LEAS, LONDON ..	Greaves, Bull, & Lakio		
LEATH, LONDON ..	Stanton, J.	PICKET, BURY ..	Ficklerings Ltd
LEATH, LONDON ..	Ingram & Clarke	PILKINGTON ST. HELENS ..	Pickup, J. H., & Co., Ltd.
LEATH, LONDON ..	Limmer Asphalt Paving Co. Ltd	PILKINGTON ST. HELENS ..	Pilkington Bros.
LEATH, MANCHESTER ..	North of England Asphalt Co. Ltd	PILKINGTON, LONDON ..	Smith, Jonas, & Co.
LEATH, LONDON ..	Line, J., & Sons	PITCHFORD, LONDON ..	Timbury Drawing Office, The
LEICESTER, LONDON ..	Watson, F. & Co., Ltd.	PITCHEY, LONDON ..	Plastic Decoration and Paper
LEKE, READING ..	Lio, J., & Sons		Macha Co., Ltd., The
LEOY, S. BIRMINGHAM ..	Lloyd & Lloyd	PLATEAU, LONDON ..	Ashwell & Nesbit
LEOYHEAD, DUNFERMLINE ..	Bournehill Coal Co.	PLATEAU, LONDON ..	Pilkington & Co.
LEOYHEAD, LONDON ..	Wyle & Lockhead, Ltd.	PLATEAU, CORBISH ..	Purcell & Co.
LEOYHEAD, LONDON ..	Bayless, Jones & Bayless	PORTWAY, HALSTED ..	Portway, Charles, & Son
LEOYHEAD, LONDON ..	Hermann, M. Ltd.	POTTERIES, WOLSWELL ..	Hayland E. & J.
LONDON, BETTLEY-COED ..	Bettley-Cood Slate Co.	POTTERTON, LONDON ..	Porterston Tacos.
LONDON, CRAWLEY ..	Charteris & Logley	POULTON, READING ..	Faulton & Son
LONDON, ABERDEEN ..	McIntosh & Ros	PRESTAGE, BRISTOL ..	Prestage & Co.
LONDON, HALIFAX ..	Lumby, Sec. & Wood, Ltd.	PRICE, L.P., WOLVERHAMPTON ..	Price, Geo., Ltd.
LONDON, LONDON ..	Ola Elevator Co., Ltd.	PROGRESSIVE, GLASGOW ..	Murdoch & Cameron
		PROMPTITUDE, LONDON ..	Blackwell Galvanized Iron Co., Ltd.
MAGANDREW, BUILDERS, WOLVERHAMPTON ..	Macandrew, D. & Co.	PROTEUS, LONDON ..	Bran, Colburn, & Son
MAGANDREW, LONDON ..	Meinzer & Co., Ltd.	PULHART, LONDON ..	Van Straalen, M.
MAGANDREW, LONDON ..	Malkin, Edg. & Co.		
MAGANDREW, LONDON ..	Martyn, H. H., & Co.	QUALITY, LIVERPOOL ..	Curtis, H. F., & Co.
MAGANDREW, LONDON ..	Fleming & Co.	QUANTITIES, LONDON ..	Wright, James, & Sons
MAGANDREW, LONDON ..	Mattison, F. & Co.		
MAGANDREW, LONDON ..	Maw & Co., Ltd.	RATIONAL, BOLTON ..	Taylor, J. W. Ltd.
MAGANDREW, LONDON ..	May, William & Thomas	REAR, LONDON ..	Carlton, Pierre & Figueus
MAGANDREW, LONDON ..	Wright, Geo. & Co.		Plaster Co.
MAGANDREW, LONDON ..	Wright, Geo. & Co.	REKLAW, NEWCASTLE-ON-TYNE ..	Walker, Hy., & Son, Ltd.
MAGANDREW, LONDON ..	Measures Bros., Ltd.	RIGHT, ABERDEEN ..	Wright, Jas., & Sons
MAGANDREW, LONDON ..	Maldrum Bros.	ROBERT ADAMS, LONDON ..	Adams, R.
MAGANDREW, LONDON ..	Maldrum Bros.	ROOPIED LIVERPOOL ..	Dixon, I., & Co.
MAGANDREW, LONDON ..	Meldrum Bros.	ROOPIED LIVERPOOL ..	Rowson, Drew & Co.
MAGANDREW, LONDON ..	Ormed, James & Sons, Ltd.	RUSSELL, DUBLIN ..	Russell Robert, & Sons
MAGANDREW, LONDON ..	Mies, E. & A. Ltd.		
MAGANDREW, LONDON ..	Smith, Geo.		
MAGANDREW, LONDON ..	Smith, Jonas, & Co.		
MAGANDREW, LONDON ..		SAFES, BIRMINGHAM ..	Whitfield, F. & Co.
MAGANDREW, LONDON ..		SAFES, LONDON ..	Whitfield, F. & Co.
MAGANDREW, LONDON ..		SANKEY, CANNING TOWN ..	Sankey, J. H., & Son
MAGANDREW, LONDON ..		SCHOLASTIC, DARTFORTH ..	North of England School Furniture Co., Ltd., The
MAGANDREW, LONDON ..		SCULPTORS, ABERDEEN ..	Whitehead, J. & Sons
MAGANDREW, LONDON ..		SCULPTORS, LONDON ..	Whitehead, J., & Sons
MAGANDREW, LONDON ..		SEVERNAL, LONDON ..	Coolbrookdale Co., Ltd.
MAGANDREW, LONDON ..		SEVERNAL, LONDON ..	Alben Clay Co., Ltd.
MAGANDREW, LONDON ..		SHARPS, BARKHED ..	Shanks & Co.
MAGANDREW, LONDON ..		SHARPS, SWADWORTH ..	Sharpe Bros. & Co.
MAGANDREW, LONDON ..		SHUTTERS, MANCHESTER ..	Mallinson, Wm.
MAGANDREW, LONDON ..		SILLS, BRADFORD ..	Leggott, W. & R., Ltd.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Graves' Patent Roofing Co.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Sills, William
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Hopton Wood Store Co. Ltd.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Skey, G. & Co., Ltd.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Skey, G. & Co., Ltd.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Hutchinson Bros.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Jones, F. & Co.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Herwater Green Slate Co., Ltd.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Tilberthwaite Green Slate Co.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Ashwell & Nesbit
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Portmadoc Slate Co.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Somerset Trading Co., Ltd., The
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Rottmann & Co.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Stanley Bros.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Johnson Bros.
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	Williams, H. W., & Sons
MAGANDREW, LONDON ..		SILICA, LIVERPOOL ..	McDowall, Steven, & Co., Ltd.

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STEVENS, ENGINEER, TAUNTON	Stevens, E. W.	VENTILATION, GLASGOW	Key, Wm
STONECLAY, PORTLAND	Peares, John	VENTILATION, LIVERPOOL	Gibbs, John, & Son
STONES, ROSKID, ULVERSTON	Stones, John	VENTILATION, HALIFAX	Bedford, James, & Co., & Hill & Hey
SUN, GLASGOW	Smith, Geo., & Co., Ltd.		
SUPPLIES, GLASGOW	Cosland & Mackay		
SWAIN'S BOURNE, BIRMINGHAM	Bourne (Swains), & Son	VENTILATION, MOSBEGATE	Howorth & Co.
SWAN, NEWCASTLE	Swan, J. C. & Partners	VENTILATION, LONDON	Williams, Alfred, & Co.
SWITCH, MANCHESTER	Royce, F. H., & Co., Ltd.	VERONER, LONDON	Veronese, Limited
SYDNEY STOVES, LONDON	Clark, S., & Co.	VILKROUS, LONDON	Candy & Co., Ltd.
SZEREFMEY, LONDON	Seerelney, N. C., & Co.	VOWEL, MANCHESTER	Bradford, Thos., & Co
		VOWEL, LIVERPOOL	
TAYLOR, DORRING	Taylor & Brooker	WACMAN, MANCHESTER	Fletcher, Russell, & Co., Ltd.
TEMPLE, CANON'S MARSH, BUSTOL	Temp's, Rogers & Co.	WALKERS, PATENTERS, HECKINGWICK	Walker, E., & Co.
THISTLE, ARMLEY	Matheson, Wilson & Co.	WALLPAPER, LONDON	Jeffrey & Co.
THOM, PATRICKSON	Thom, J.	WARDEN, LONDON	Waring, S. J., & Sons
THORNTON, SANDWICH	Bloxham, W. J.	WARMING, LONDON	Wontner Smith, J. Gray & Co.
TIDDISLEY, DALLAN, N. TILNER'S MAIDENHEAD	Tiddisley, J.	WARMING, MANCHESTER	Skorland, E. H., & Bros
TILNER'S MAIDENHEAD	Cooper, J. K., & Sons	WAXING, MANCHESTER	Saxdars, S.
TOMMERIE, LONDON	Anderson, R., & Co.	WASTE, LIVERPOOL	Palatine Engineering Co., Ltd
TRAVERSABLE, LONDON	Val de Travers Asphaltic Paving Co., Ltd	WAYGOOD, LONDON	Waygood, R., & Co
		WEATHERPROOF, LONDON	Indestructible Paint Co., Ltd.
		WEATHERVANE, LONDON	Lewis, J.
TREGGON, LONDON	Treggon & Co.	WEATHERWISE, LONDON	Self Lock Roofing Tile Co
TRIAD, LONDON	Slater, J., & Co.	WEDGE, LONDON	Kitchen & Co., Ltd.
TRIMM, BIRMINGHAM	Walker & Worsey	WENYER, MITCHELDEAN	Calchester, Wemyss, & Co., Ltd.
TROWELL, LONDON	Charteris & Longley		
TUCKER, LOUGHBOROUGH	Tucker, G., & Son	WHEATLY, THENTVALE	Wheatly & Co.
TUPA, LONDON	Ward, B., & Co.	WHITWICK COLLIERY, COALVILLE	Whitwick Colliery Co., Ltd
TYFORD, HANLEY	Twyford, T. W.		
TYLER, LONDON	Hayward Tyler & Co.	WINTON, GLASGOW	Gairbrath & Winton
		WIPPELL BROS., EXETER	Wippell Bros. & Row
		WISMAN, BIRMINGHAM	Staw, W., & Co.
		W. & A. M. M. C. E. N. E.	Wilcoombe & Son
ULSTER, LONDON	Anderson, D., & Son, Ltd	WOOLLAWS, LONDON	Wooliams, W., & Co
UNAFFECTED, LONDON	Patent Wire-woven Waterproof Roofing Co., Ltd., The	WORLD & ROY, HALIFAX	Woolcroft, G., & Son
UNDEVELOPED, LONDON	Broadbent, J. C., & Co., Ltd	WRIGHT, NEW MALDEN	Wright, J., & Co.
		WYNDHAM, KILBURN	Wyndham, H
VANTRESS, LONDON	Newton, J., & Co.		
VAUGHAN, BROWN, LONDON	Vaughan & Brown	YOUZEN, GLASGOW	Youzen, John, & Co.



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Agricultural Drain Pipes	See <i>Pipes</i>		97, 99, 106, 130a, 138, 139, 139,			Feeding Appliances	464		203, 427, 435, 463, 466, 470,			Air Bricks 55, 63, 66, 69, 71, 73, 79, 88,			471, 477, 482, 494, 496, 504,			Grids	93, 97, 99, 100, 100, 109		508A, 514, 516A, 520, 528, 590			Propellers See <i>Ventilation or Ventilators</i>			and Stands	11, 17, 17, 17		Alabaster	See <i>Marble</i>		Bank Filings	134, 133, 138, 460, 590		Alarms	234, 245, 597		Bar Filings	138, 216		Alarm Rills	See <i>Gates or Railings</i>		Barges	216		Alars	208, 311, 317		Bar Iron or Steel	191, 432, 630		Anaglyphs See <i>Wall and Ceiling Coverings</i>			Bar, Railway	432		Anemoid Barometers	606		Ties	191		Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342										
Feeding Appliances	464		203, 427, 435, 463, 466, 470,			Air Bricks 55, 63, 66, 69, 71, 73, 79, 88,			471, 477, 482, 494, 496, 504,			Grids	93, 97, 99, 100, 100, 109		508A, 514, 516A, 520, 528, 590			Propellers See <i>Ventilation or Ventilators</i>			and Stands	11, 17, 17, 17		Alabaster	See <i>Marble</i>		Bank Filings	134, 133, 138, 460, 590		Alarms	234, 245, 597		Bar Filings	138, 216		Alarm Rills	See <i>Gates or Railings</i>		Barges	216		Alars	208, 311, 317		Bar Iron or Steel	191, 432, 630		Anaglyphs See <i>Wall and Ceiling Coverings</i>			Bar, Railway	432		Anemoid Barometers	606		Ties	191		Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																
Air Bricks 55, 63, 66, 69, 71, 73, 79, 88,			471, 477, 482, 494, 496, 504,			Grids	93, 97, 99, 100, 100, 109		508A, 514, 516A, 520, 528, 590			Propellers See <i>Ventilation or Ventilators</i>			and Stands	11, 17, 17, 17		Alabaster	See <i>Marble</i>		Bank Filings	134, 133, 138, 460, 590		Alarms	234, 245, 597		Bar Filings	138, 216		Alarm Rills	See <i>Gates or Railings</i>		Barges	216		Alars	208, 311, 317		Bar Iron or Steel	191, 432, 630		Anaglyphs See <i>Wall and Ceiling Coverings</i>			Bar, Railway	432		Anemoid Barometers	606		Ties	191		Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																						
Grids	93, 97, 99, 100, 100, 109		508A, 514, 516A, 520, 528, 590			Propellers See <i>Ventilation or Ventilators</i>			and Stands	11, 17, 17, 17		Alabaster	See <i>Marble</i>		Bank Filings	134, 133, 138, 460, 590		Alarms	234, 245, 597		Bar Filings	138, 216		Alarm Rills	See <i>Gates or Railings</i>		Barges	216		Alars	208, 311, 317		Bar Iron or Steel	191, 432, 630		Anaglyphs See <i>Wall and Ceiling Coverings</i>			Bar, Railway	432		Anemoid Barometers	606		Ties	191		Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																												
Propellers See <i>Ventilation or Ventilators</i>			and Stands	11, 17, 17, 17		Alabaster	See <i>Marble</i>		Bank Filings	134, 133, 138, 460, 590		Alarms	234, 245, 597		Bar Filings	138, 216		Alarm Rills	See <i>Gates or Railings</i>		Barges	216		Alars	208, 311, 317		Bar Iron or Steel	191, 432, 630		Anaglyphs See <i>Wall and Ceiling Coverings</i>			Bar, Railway	432		Anemoid Barometers	606		Ties	191		Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																		
Alabaster	See <i>Marble</i>		Bank Filings	134, 133, 138, 460, 590		Alarms	234, 245, 597		Bar Filings	138, 216		Alarm Rills	See <i>Gates or Railings</i>		Barges	216		Alars	208, 311, 317		Bar Iron or Steel	191, 432, 630		Anaglyphs See <i>Wall and Ceiling Coverings</i>			Bar, Railway	432		Anemoid Barometers	606		Ties	191		Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																								
Alarms	234, 245, 597		Bar Filings	138, 216		Alarm Rills	See <i>Gates or Railings</i>		Barges	216		Alars	208, 311, 317		Bar Iron or Steel	191, 432, 630		Anaglyphs See <i>Wall and Ceiling Coverings</i>			Bar, Railway	432		Anemoid Barometers	606		Ties	191		Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																														
Alarm Rills	See <i>Gates or Railings</i>		Barges	216		Alars	208, 311, 317		Bar Iron or Steel	191, 432, 630		Anaglyphs See <i>Wall and Ceiling Coverings</i>			Bar, Railway	432		Anemoid Barometers	606		Ties	191		Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																				
Alars	208, 311, 317		Bar Iron or Steel	191, 432, 630		Anaglyphs See <i>Wall and Ceiling Coverings</i>			Bar, Railway	432		Anemoid Barometers	606		Ties	191		Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																										
Anaglyphs See <i>Wall and Ceiling Coverings</i>			Bar, Railway	432		Anemoid Barometers	606		Ties	191		Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																
Anemoid Barometers	606		Ties	191		Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																						
Angle Iron or Steel 130, 191, 224, 629,			Basement Lights See <i>Parasol Lights</i>			630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																												
630, 632, 633, 636			and Stair Board Lights			Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																		
Anti Friction Metal	454		Bath Filings Looking Apparatus for	540		Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																								
Aqueducts	216		Baths and Bath Filings 62, 64, 82,			Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																														
Architraves	228		154, 166, 167, 167, 199, 224,			Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																				
Artesian Wells 1, 163, 171, 190, 194, 223			261, 266, 302, 304, 353, 354,			Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																										
Artificial Stone or Concrete 79, 134,			358, 374, 408, 427, 439, 434,			426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																
426, 498, 504, 503, 505, 507,			504, 508A, 513, 516A, 516B,			509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																						
509, 510, 511, 514, 515			517, 526-528, 547, 568, 590,			Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																												
Bowstons	496		590A, 598, 598, 598, 598, 607			Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																		
Burekas	310		Hatters and Beaters			Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																								
Granite Concrete	305, 506, 514, 515		Public	169, 199, 316B		Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																														
Granitic	510, 517		Batteries	164, 294		Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																				
Granolithic	515		Bearings	210, 432		Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																										
Imperial	507		Beds	254		Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																
Kentish Rag	514		Bed Furniture	254		Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																						
Lanzellon	138		Bear Coolers	407		Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																												
Marmolitic	509		Fittings	211		Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																		
Metallic	510		Beil Mangler	212-234		Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																								
Art Metal Work	See <i>Metal Work</i>		Pills or Pishes 254, 398, 409, 412, 416			Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																														
Asbestos	153, 285, 380a, 590, 591		Bells 213, 238-239, 239, 245, 416,			Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																																				
Decorations	585, 586a, 590		452, 596-598			Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																																										
Fuel	246		Chimes	213		Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																																																
Ash Bins	See <i>Dust Bins</i>		Church, School or Factory 213,			Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																																																						
Closets	See <i>Closets</i>		232, 234, 239, 245			Asphalt Building Blocks	490		Clock	213, 232		Asphalt 143, 148, 149, 153-157, 182,			Electric 233, 234, 245, 416, 596, 598			190, 505, 511			Hand	239, 245		Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																																																												
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Acid Rusting	183		Lighthouse	213, 232		British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																																																																																				
British	249		Mechanical or Crank	234		Compressed	153, 157		Plantations	213		Dolomite	248		Pneumatic	234		Fibrous	249		Rehurg	213		Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																																																																																										
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Italian	153		Repaired	212, 213		Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																																																																																																																		
Lava	153, 155, 156		Sleigh	245		Limestone	153, 155		Town Hall	213		Mastic	148, 153, 157		Tubular	239		Polycrystalline	153, 155		Bends	See <i>Channels and Bends</i>		Rock	153, 155, 156		Blackboards	553		Seyssel	153, 155, 156, 182		Blinds 185, 163, 211, 227, 233, 234,			Val de Travers	153, 155, 156		238, 240-242, 245, 252-254,			Walls	153, 155, 156		254A, 256A, 270, 430, 467			Awning	153, 155, 156		Balcony	242		Axe Pullers	See <i>Pullers</i>		Canelecte	242					Case	242, 243, 244					Canelecte	242, 243, 244					Conservatory	242, 243, 244					Furniture	242, 243, 244					Fireproof	242, 243, 244					Florentine	242, 243, 244					Glass	242, 243, 244					Holocene	242, 243, 244								Bainmaries	262, 166					Baire	26					Bakers' Machinery	267					Ornate	167, 342																																																																																																																																																																																																																																																																																								
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Mural	586, 590, 595	Summerfield	445	Fire	See Fire Engines			
Painted	577, 580, 581, 586	Tighe	379	Fittings	273			
Paper Mache	571	Tudor	372	Gas	163, 169, 171			
Plaster	581	Door Hangers	415	Hot Air	181			
Scagliola	403	Putters	376, 415	Pumping	See Pumps and Pumps			
Translucent	581	See Springs	See Door Carls, and Spring Hinges	Steam	161, 171, 173, 185			
Wood	527, 530	Iron and Frames	118, 120, 124, 125	Water	211, 230, 341			
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Altar	260	Architect	103	Expansion Joints	See Pipe Fittings and Connections			
Convertible	229, 241	Brutched	531	Facias	254, 257			
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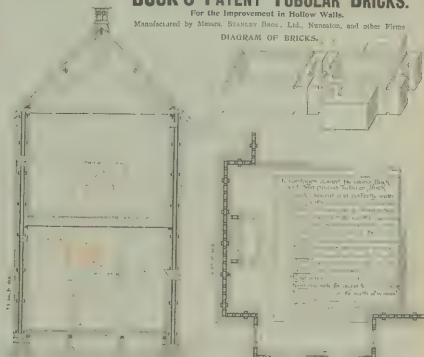
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BUCK'S PATENT TUBULAR BRICKS.

For the Improvement in Hollow Walls.

Manufactured by Messrs. STANLEY BROS., Ltd., Nuneaton, and other Firms

DIAGRAM OF BRICKS.



SECTION

PLAN OF ROOM



BUCK'S PATENT WEATHER TILES. These Tiles are made in fifteen different patterns, each Tile has the side edges the full length of an ordinary tile, the pattern not interfering with the side edges, thus securing a perfect weatherproof joint. For finishing the angles, a tile with a mitred edge and half plain tiles are made.

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BUCK'S PATENT CHIMNEY FITTINGS

and Smoky Chimneys

These Fittings are made in Stone, wrought-iron, or cast-iron, and are adapted to suit any Flue. They form the necessary bend in Chimney breast for preventing Down Draughts, and avoiding the imperfect gathering in of the Flue over Fireplaces. They are also capable of being fixed in Chimney Hoods, and are adapted for use in Smoky Chimneys. Manufactured by Messrs. STANLEY BROS., Ltd., Nuneaton, and other Firms.

PARTICULARS & PRICES CAN BE OBTAINED FROM THE PATENTEE WM. BUCK, ARCHITECT, HORSHAM.

RICH RED & DARK RED FACING AND MOULDED BRICKS.

The Bricks manufactured by me at Rowlands Castle are distinguished by their strength, colour, and other properties. The clay from which they are made is plastic, readily worked, and burns a rich, red colour, without the aid of any artificial means. Having the reputation of being of a superior quality, and being thoroughly out. Great care is taken in the preparation of the clays, which, by means of improved machinery, are thoroughly ground and mixed before being made into bricks or other goods.

After being a long time exposed to the sun, the bricks are found to be of a high temperature, and especially constructed for this purpose.

By this means I am able to produce a high class facing brick of a dark or rich red colour, possessing exceptional non-absorbent and weather-resisting properties, the surface having a soft velvety appearance, which is pleasing to the eye, and does not reflect the glare of the sun.

The Rowlands Castle Bricks, being made from a strong Terra Cotta Clay, and not from mild loamy material, possess great strength and durability. Before being put to use for any work and building, Messrs. David Kirkaldy & Son have tested a number of these Bricks, and report that they stood the heavy pressure of over 300 tons per square foot before crushing.

I also manufacture RUBBING BRICKS, for gauged work and for carving and cutting, of very superior quality and colour. They are made from specially washed earth, and will be found to work readily.

Moulded Bricks and Terra Cotta can be promptly produced from Architect's own Drawings.

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" RICH	"	"
" MEDIUM	"	"

GOOD RED FACINGS.

HARD RED PAVING BRICKS, 2 IN
RICH RED RUBBERS, 10 1/2 INCH.

PRICES OF THE ABOVE ON APPLICATION.

RED MOULDED BRICKS.

PLATE I. 2-INCH MOULDED BRICKS AS HEADERS AND STRETCHERS.

Patterns, Nos. 1, 2, and 3, per 100	each	per 100	per 100
" 4 to 10	"	"	"
" 11 and 12	"	"	"
" 13 and 14	"	"	"

PLATE II. MOULDED GILLS, JAMBS, PLINTHS, AND COPINGS.

Patterns, Nos. 101, 102, and 103	per 100	per 100	per 100
" 104, 105, 106, 107, and 108	"	"	"
" 109 and 110	"	"	"
" 111	"	"	"
" 112 to 115	"	"	"
" 116	"	"	"

PLATE IV. PANELS AND KEY BRICKS

Patterns, Nos. 1, 2, and 3	each, 1/2	Key Bricks, No. 7, 3/4 each; No. 8	each, 5
" No. 4, 1/2 each; No. 5	"	" No. 10 and 11, 1/2 each; No. 12	each, 5
" No. 6, 1/2 each; No. 9	"	" No. 13	each, 5
		Complete Swag, No. 14	19

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500 Ornamental.



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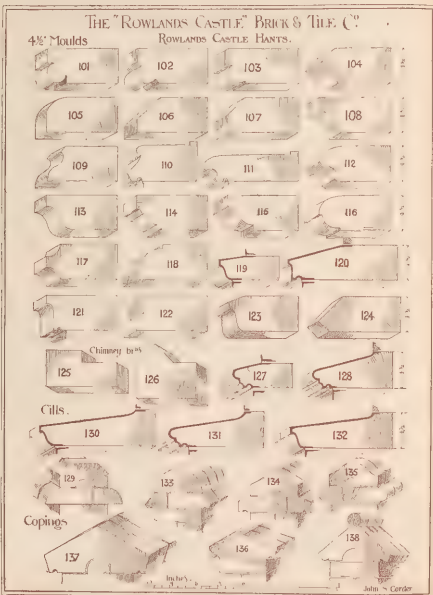
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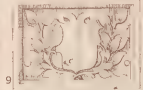
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THE "ROWLANDS CASTLE" BRICK & TILE C^o

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Ornamental Panels & Keys



John S. Corder

THE ROWLANDS CASTLE BRICK & TILE CO

ROWLANDS CASTLE HANTS



RIDGES



2



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9



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11



12



13



14



15



16

RIDS



ANGLE TILES



18



VALLEYS

19



20



21



22



23

ROOF TILES

ESTABLISHED NEARLY A CENTURY.

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Best Staffordshire Blue Vitrified Terra Metallic Bricks.

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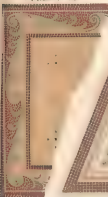


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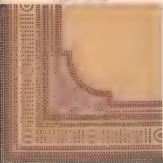
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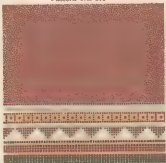
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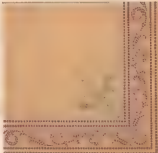
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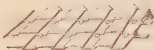
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IN consequence of numerous persons representing themselves as Manufacturers of the "Celebrated Broseley Roofing Tiles," we, the undersigned Firms, beg to inform the Public that we are the only Manufacturers of these Tiles at "Broseley, Shropshire"—the seam of clay from which they are made being only found at Broseley, from which place they derive their name.

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COALBROOKDALE CO. (LIMITED).	JONES BROS.
DAVIS, G. & F.	LEGGE, G. & SON.
DOUGHTY, JOHN & SON.	MAW & CO. (LIMITED)
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ESTABLISHED 1780

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Kinds of Brick-Kiln Goods;

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For Churches, Public Buildings, Halls, Vestibules, Corridors, &c.

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Manufactory:

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PRICE LIST OF K

BROSELEY ROOFING TILES,**RED, STRAWBERRY, or BRINDLED.**

Delivered into Trucks at Coalport or Ironbridge Station, G.W.R.—or Coalport Station, L. & N.W.R.

A PLY SQUARE TILES										T.	C.
Best Pressed Plain Tiles, with ribs and holes	...	...	...	...	...	...	...	35/-	per 1,000	1	0
Do. do. Ornamental do. do.	...	...	...	...	...	...	...	37/6	"	1	0
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Hip Tiles	...	...	...	...	...	...	...	3/3	per doz.	1 ton	
Valley Tiles,	...	...	...	...	...	...	...	3/-	"		
Angle Tiles, Plain	...	...	...	...	...	...	...	4/-	"		per 600.
Do. do. Ornamental	...	...	...	...	...	...	...	4/6	"		
Plain Ridges, 12 in. lengths	...	...	...	...	...	...	...	2/8	per doz.	1 cwt.	14 lbs.
Roll do. 12 in. "	...	...	...	...	...	...	...	4/-	"	1 cwt.	36 lbs.
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2	12 x 6	12	1200	12	12 x 6	12	1200	22	12 x 6	12	1200	31	12 x 6	12	1200	40	12 x 6	12	1200
3	12 x 6	12	1200	13	12 x 6	12	1200	23	12 x 6	12	1200	32	12 x 6	12	1200	41	12 x 6	12	1200
4	12 x 6	12	1200	14	12 x 6	12	1200	24	12 x 6	12	1200	33	12 x 6	12	1200	42	12 x 6	12	1200
5	12 x 6	12	1200	15	12 x 6	12	1200	25	12 x 6	12	1200	34	12 x 6	12	1200	43	12 x 6	12	1200
6	12 x 6	12	1200	16	12 x 6	12	1200	26	12 x 6	12	1200	35	12 x 6	12	1200	44	12 x 6	12	1200
7	12 x 6	12	1200	17	12 x 6	12	1200	27	12 x 6	12	1200	36	12 x 6	12	1200	45	12 x 6	12	1200
8	12 x 6	12	1200	18	12 x 6	12	1200	28	12 x 6	12	1200	37	12 x 6	12	1200	46	12 x 6	12	1200
9	12 x 6	12	1200	19	12 x 6	12	1200	29	12 x 6	12	1200	38	12 x 6	12	1200	47	12 x 6	12	1200
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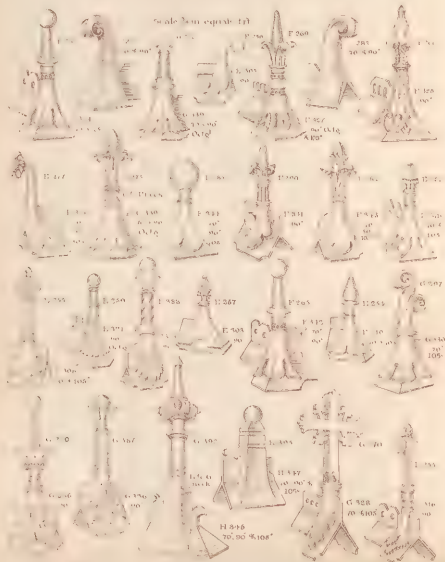
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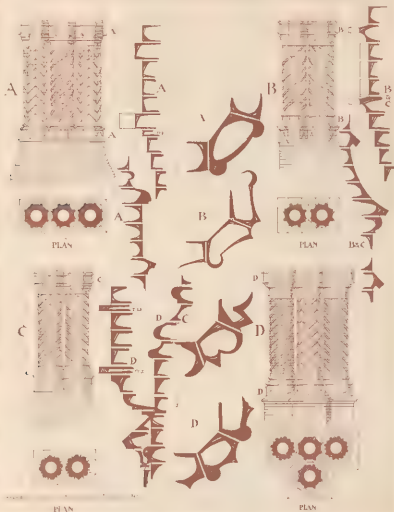
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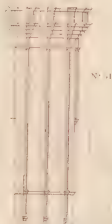
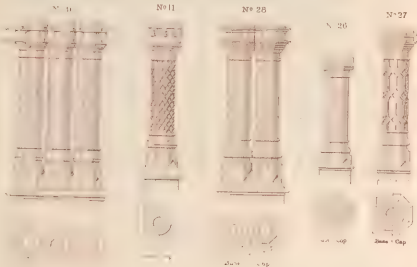
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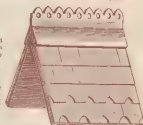


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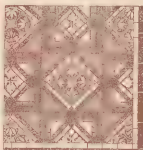
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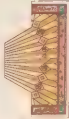
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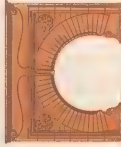


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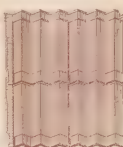


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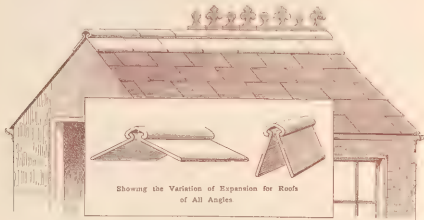
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NAT'L TELEPHONE
No 142

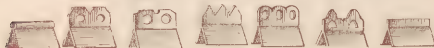
TELEGRAMS
PORCELAIN
COBRIDGE



* ROOFING TILES. *

PRESTAGE & CO.,
THE MILBURGH TILERIES,
BROSELEY, SALOP.

MANUFACTURERS OF
Plain & Ornamental Roofing Tiles, Pressed Hip & Valley Tiles, Ridges,
Finials, &c., Brown, Brindle, Strawberry, or Red.



THOMAS PEAKE,

"THE TILERIES," TUNSTALL, Stoke-upon-Trent.

Prize Medals: London, 1851; Paris, 1867; Philadelphia, 1876; Chicago, 1893.

MANUFACTURER OF

Blue Bricks for Fencing, Paving, Caissons, Aches, Measured String Course, Stable Paving, Manger Bricks, Ventilating, Channel and Water Sill Bricks, also special Bricks for Chemical Works and Glove Tanners, Coping Bricks for Walls and Platforms.

Blue and Buff Clinkers for Stables, Coach-houses, &c.

Blue and Red Ridge Tiles. Finials and Terminal Ridges, more than 100 Designs.

Ventilating Ridges. *Thompson's Patent*, and other designs.

ROOFING TILES A SPECIALITY.

COLOURS.

BLUE, MOTTLED, RED & BROSELEY.

SIZE, 10½ in. x 8½ in.

WEIGHT, 20 cwt. per 1,000

HIP TILES, & No 2 GABLE TILES, 3½ each

VALLEY and VENTILATING TILES, 3d each

(PERFECTA)

TRADE

MARK



PRICE on RAIL.

BEST SELECTED, 40/- 1,000

UNSELECTED, 35/- "

ORNAMENTAL, 25 per 1,000 EXTRA

TILE and HALF SIZE, DOUBLE PRICE

BLUE ROOF TILES, 26 per 1000 EXTRA

PEAKE'S FLOORING TILES, in Four Qualities.

Ordinary Pressed in Blue, Red and Buff, hard and durable, well suited for cottages, at from 1.4½ per yd super

Medium Quality—Blue, Red, and Buff, for better class houses. 1/9 "

Superfine W Quality—Blue, Red, Buff, and Black, ½ to 1 inch thick 2/9 "

Tessellated—Blue, Red, Buff, Black, Chocolate, &c., ½ to ¾ 3/6 "

Pavements in W quality and Tessellated arranged in Geometrical patterns for Entrance Halls, Verandahs, Conservatories, &c. Diagrams on application.

The Superfine W and Medium Pressed Tiles

are stamped with Mr. Peake's Registered Trade

Mark, to ensure identity.



Mural Tiles, Date and Monogram Panels, Diaper and String Course, Pillar Caps, and Balusters.

Garden Border Tiles, Blue Vitrified, 24 patterns, quite impervious to action of frost, &c.

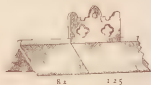
The designs following are a few taken from the Pattern Book, which will be sent, with complete price list, on application.

PRICES IN TRUCK AT WORKS.

RIDGE TILES.		FAST TOP RIDGES.		No. 141 & crest No. 96 1/2 per yd.		FINIALS.	
No. 1 18 in. long 6 in. wide 6d per yd.		No. 81 2 in. cross . . 1/6 per yd.		No. 142 1/8 "		No. 4 and 12 5/- each	
" 2 " 7 " " 7d "		" 82 3 in 2/- "		No. 143 & crest No. 97 1/2 "		No. 14 7/- "	
" 3 " 6 " " 8d "		No. 83 to 126 and similar—		No. 144 & 145 . . 1/4 "		No. 15 8/- "	
" 4 " 5 " " 9d "		7 in. wide 4 1/2 in. cross 2/3 per yd.		VENTILATING RIDGES.		No. 16 9/- "	
" 5 " 4 " " 10d "		" 6 " " 2/6 "		No. 8 18 in. long . . 1 1/2 "		No. 17 10/- "	
" 6 and 7 1/2 "		" 7 " " 3/6 "		" " " 2 1/2 "		No. 18 11/- "	
		" 8 " " 4/6 "				No. 19 12/- "	
		" 9 " " 5/6 "				No. 20 13/- "	
		" 10 " " 6/6 "				No. 21 14/- "	
		" 11 " " 7/6 "				No. 22 15/- "	
		" 12 " " 8/6 "				No. 23 16/- "	
		" 13 " " 9/6 "				No. 24 17/- "	
		" 14 " " 10/6 "				No. 25 18/- "	
		" 15 " " 11/6 "				No. 26 19/- "	
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Thomas Peake "The Tileries", Tunstall.

Ridge Tiles & Finials



Thomas Peake "The Tileries", Tunstall.

Roofing
Tiles.

(PERFECTA)
TRADE  MARK

Blue, Red
or Broseley.



1



2



3



4



5



6



7



8



H/T Tile



Tile & Half or Double Tile

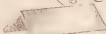


Ridge & Half Roof Tile



Valley Tile

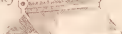
Ridge Tiles Blue, Red & Brown or Broseley



1 Plain



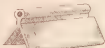
2 Curved



3 Rounded



4 Angular Capped



5 Ruled Capped



6 Ruled Grooved



7



8



9



10



11

Thomas Peake "The Tileries", Tunstall.

Ridge Tiles & Ventilators

BUTTERFIELD'S PATTERNS

ORNAMENT No 57



141

ORNAMENT No 58



141



142



138



143



140

139



144



145



146 WESTMINSTER A DESIGN REBUILT



137



147 THOMPSON'S PATENT VENTILATING



147 THOMPSON'S PATENT VENTILATING



148 THOMPSON'S PATENT VENTILATING



147 THOMPSON'S PATENT VENTILATING



148 THOMPSON'S PATENT VENTILATING



VENTILATING RIDGE

84



NO 3 LIVING VENTILATING RIDGE



VENTILATING RIDGE



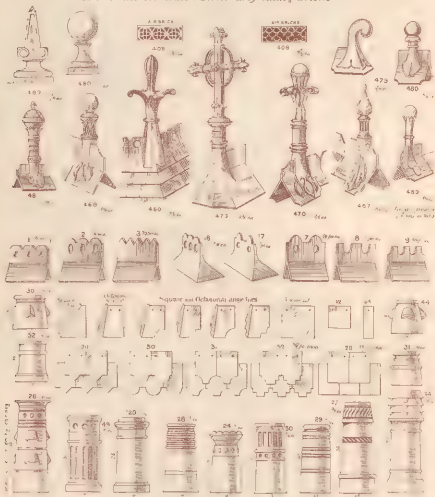
86



92

POULTON & SON.

Manufacturers of the well known Reading Tiles and Terra Cotta
Red and Grey Moulded Bricks, Ornamental Bricks, Brick Enrichments
 and of the celebrated **Silver Grey Facing Bricks**



POULTON & SON, Brick, Tile & Terra-Cotta Works, Reading
 Illustrated Catalogue, full size sections, and price list on application.

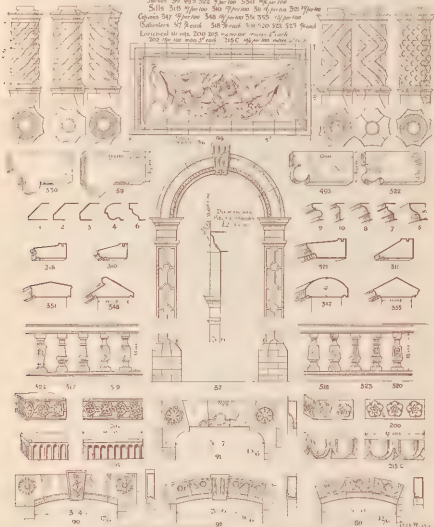
TELEGRAMS
 POULTON, READ RG.

We give particular attention to the
modeling and making of Terra Cotta and
Ornamental Bricks from Architects own
designs and can supply within a month
from date of order

Price List

Moulded Bricks 125 $\frac{1}{2}$ per 100 5.67 B. 10 $\frac{1}{2}$ per 100
4.9 $\frac{1}{2}$ per 100
Jars 30 40 50 522 $\frac{1}{2}$ per 100 5.67 B. 10 $\frac{1}{2}$ per 100
Sills 318 $\frac{1}{2}$ per 100 340 $\frac{1}{2}$ per 100 350 $\frac{1}{2}$ per 100 360 $\frac{1}{2}$ per 100
Columns 347 $\frac{1}{2}$ per 100 348 $\frac{1}{2}$ per 100 354 355 $\frac{1}{2}$ per 100
Baltimores 57 $\frac{1}{2}$ each 518 $\frac{1}{2}$ each 519 520 523 525 $\frac{1}{2}$ each
Laminated tiles 200 205 $\frac{1}{2}$ per 100 206 $\frac{1}{2}$ per 100
202 203 204 205 $\frac{1}{2}$ each 215 C $\frac{1}{2}$ per 100 216 $\frac{1}{2}$ per 100

Goods packed in trucks at Reading Station
and can be forwarded by Great Western,
South Western, or South Eastern Railway
Also in Barrels alongside our Works.
Prices of Chimneys on Application

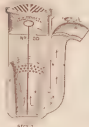


POULTON & SON, Brick, Tile & Terra-Cotta Works, Reading

Illustrated Catalogue, full size sections, and price list on application.

TELEGRAMS
POULTON, READING.

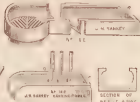
Sankey's Patent Gully.



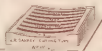
Square Stoneware Kerb.



Improved Channel and Kerb.



Iron Grating & Frame for Stables, &c.



Special Channel.

SANKEY'S Patent Deep Intersecting Gully.*The Best for Preventing Drains Blocking and Sewer Gas Escaping.*

For Use in Factories, Stables, Vards, Schools, Hospitals, House Drains, Streets, Parks & Open Spaces, &c.



Fire Bricks, Lumps, Tiles and Clays of every description; also Gannister-Boiler Seating Blocks, Flue Covers LARGEST & MOST VARIED STOCK IN LONDON. Stoneware, Sanitary Pipes Junctions, Traps, &c. London and Country makes. Special Buff, Vitreous, Stoneware, Stabile and other Bricks, Acid-proof Roofing Tiles, Ridges, Finials, Pots, Slates, also Slating and Tiling Glazed Bricks and Tiles of all Colours Blue, Metallic Staffordshire Bricks, &c. Special White Impervious Terra Cotta Bricks, &c. IMMEDIATE DELIVERY.

PARTICULARS OF—

ARCHITECTS and Engineers' Special Designs Carefully Executed.

J. H. SANKEY & SON, Canning Town, E.,

CONTRACTORS TO H.M. GOVERNMENT.

And at Barge House Wharf, North Woolwich and East Ham;

SANKEY & CO., ALSO OF, HAMMERSMITH and Kensington, W.

**G. TUCKER & SON,**

* LOUGHBOROUGH, + LEICESTERSHIRE. *

MANUFACTURERS OF

BEST RED LEICESTERSHIRE FACINGS. HARD PRESS BRICKS, and SAND STOCKS of Even Colour.

MOLDED BRICKS to any pattern, both in Press & Sand Stock Surfaces Red Quarries. 4 in. by 4 in. to 12 in. by 12 in.

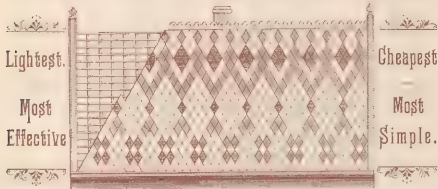
RED RIDGES, FLAT TILES, FLOWER POTS.

*Their facings are used in St. Pan's Hotel and adjoining Buildings and their large works at home and abroad.***SPECIALITY.** Extra hard pressed Bricks for Sewers and Manholes, with new pattern thin frog to make a tight joint, as supplied by us to London District Councils and Capetown Corporation.

SAMPLES & PRICES SUBMITTED ON APPLICATION. ILLUSTRATED LISTS FREE. ARCHITECTS' DESIGNS CARRIED OUT.

THE ROOFING OF THE AGE. SELF-LOCK ROOFING TILES.

AWARDED SIX MEDALS.
SPECIFIED BY THE LEADING ARCHITECTS.



Lightest.

Most
Effective

Cheapest

Most
Simple.

PRICES.

For Goods delivered into Railway Trucks at any London Station.

		PER 1000		PER SQUARE	
Whole Tiles.	Red, Blue, or Cement	...	...	20	about 2' 6" sq.
Side Tiles.	"	...	...	10	" 2' 6" "
Top and Bottom Tiles.	Red, Blue, or Cement	...	...	do.	" 2' 6" "
If by the square	...	...	...	22/6	per square.

These prices apply to the 18-in. size, the other sizes on application.

SPECIAL QUOTATIONS FOR COLOURS OTHER THAN ABOVE

NO NAILING or OVERLAPPING. SELF-LOCKING.
MADE IN ANY COLOUR.

Absolutely Damp-proof, Snow or Sand-proof.

IMPERISHABLE.

Millions of these Tiles have been supplied and fixed throughout the Continent.

For further Particulars, Prices, &c. apply to

SELF-LOCK ROOFING TILE CO.,

9, GRACECHURCH STREET, LONDON, E.C.

Telegraphic Address: "WEATHERWISE, LONDON."

Telegrams: "Somerset, Bridgwater."

National Telephone: No. 9.

THE SOMERSET TRADING CO., LTD.

Late BROWNE & CO., BRIDGWATER.

No. 208.



10s. each. Hip or Gable end

Manufacturers of Bricks, Roofing Tiles, Ridges, Finials, Flooring and Oven Squares, Redware Pottery, Garden Pots, Chimney Pots, Ornamental Vases, &c., &c.

No. 3.



10 1/2 x 6 1/2

Red Plain Tiles, No. 3, 550 to a square. Weight, 1 ton per 1,000. Price, per square, 38s. 3d. Ornamental patterns, 5s. per 1,000 extra.

No. 1.



10 1/2 x 6 1/2

No. 2.



10 1/2 x 6 1/2

No. 247.

4s. each.
Hip, or Gable End

No. 11



10 1/2 x 14 1/2

Double Roman Tiles,
80 to a square, 32s. per 1,000.
15s. 1 per 1,000 extra.

No. 8



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Red, per 1,000, 100s.
" " square, 14s. 5d.

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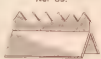
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130 to a square, 15s. 1 per 1,000.
Red, per 1,000, 10s.
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No. 64.



Red, 18" long, 7 1/2" to 10 1/2"
Per doz., 8s. 6d. per yd., 1/5.

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Red, 12" long, 7 1/2" to 10 1/2"
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No. 32.



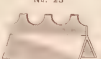
Red, 12" long, 7 1/2" to 10 1/2"
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No. 24.



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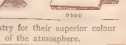
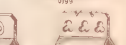
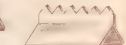
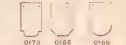
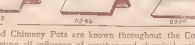
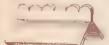


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IMPERISHABLE KERAMIC MOSAIC.
ROMAN MARBLE MOSAIC.
GRANITO AND VENETIAN MOSAIC.

TILES

RECENT WORK by WEBB AND CO.,

AT

The "Farringdon."
The "Peterborough," Walham Green.
"Horns," Kennington.
Clerkenwell Town Hall.
Chisbury Asylum.
Kensington Palace Hotel.
Colman & Company, 101, Cannon St.
Hove Swimming Baths.
Chartered Bank of India.
Leeds Liberal Club.
Jury's Hotel, Dublin.
Shoebred & Co's Lavatories.
Free Hospital, Gray's Inn Road.
Alliance Bank, Streatham.
St. Iltyd's Church, Bridgend.

London and South-Western Bank, Stockwell, Sydenham
and Clapham Junction.
"New Inn," Westminster.
"Old Dover Castle," Lambeth.
"King Lud," Ludgate Circus.
"Swan," Walham Green.
"White Horse," Farnham's Green.
British Tea Table Company's Branches.
Guthrie's Restaurant, West Strand.
"Gullerston," Londonderry.
"Glengyle," Dublin.
Morley's Hotel, Charing Cross.
Preston Park, Brighton.
Under Order.—Clifton Turkish Baths, "Admiral Keppel,"
&c., &c.

GOLD MEDALS AWARDED BELFAST EXHIBITION, 1895.

THE ASSOCIATED ROBERTS
"WOOLLISCROFT
HANLEY"

POSTAL ADDRESS
* **HANLEY** *
STAFFORDSHIRE
ENGLAND

LONDON OFFICE *
52 FINSBURY PAVEMENT
E.C.

WORKS
PATENT TILE WORKS
HANLEY

CANAL TILES
ETRURIA
TILES
CHESTERTON

TILES

GEORGE WOOLLISCROFT & SON

SOLE MAKERS
OF
"ETRURIA HYDRAULIC"
ROOFING, FLOOR & WALL TILES,
For Church Aisles, Corridors & Areas
to Public Buildings and Schools, Hotels,
Fairyhouses, Verandahs, &c. &c.

MOSAIC, ENCAUSTIC, TESSELLATED, EMBOSSED,
ENAMELLED, MOULDED SKIRTING, CAPPING &c.
FOR
Chapels, Conservatories, Walls,
Entrance Halls, Staircases,
SHOPS, HOTELS, SCHOOLS,
THEATRES, BANKS,
HEARTHES,
DADOS, &c.

MAINTAINING

SPECIAL QUALITY OF 6 IN BY 6 IN RED AND BUFF FOR
MALTING FLOORS, AS LAID AT WARE, WORKSOP,
SANBRIDGE WORTH, KINGSTON-ON THAMES, AND OTHER PLACES.

MOORISH MOSAIC

DADOS, WALLS
HEARTHES, CHEEKS, &c.

MAINTAINING

RED & BLUE PAVING, FOR RAILWAY PLATFORMS, COURT YARDS, STABLES, STREET FOOTPATHS, &c., &c.
ALSO RED, BLUE & BUFF STAFFORDSHIRE QUARRIES, FOR MILL FLOORS, KITCHENS,

FOR NEW DESIGNS,
IN BARBOTINE, HANDPRINTED, PATENT PROCESS PRINTING, &c., &c. SEE OUR
ILLUSTRATED CATALOGUE & PRICELIST FREE.



SPECIALITY—IRONSTONE—ADAMANT—**ROOFING TILES** EXPORTED CAROLAN OR
HEAVY WEAR—**QUARRIES**—**MACHINERY** SUPPLIED FOR MAKING.
EQUALLY TO VITREOUS TILES.

MANUFACTURER OF

GLAZED
STONEWARE

ALL KINDS OF

SANITARY WARE,

Butt-Jointed Pipes, Flue Pipes,
Strong Salt-glazed KITCHEN SINKS
AND CATTLE TROUGHS.Glazed 'Stoneware' Invert and
"Junction" Blocks, and
DAMP-PROOF COURSE.Garden Edging
AND
Ridge Tiles.

Telegrams:
"Wyndham, Ruabon."



Price Lists of Orders
Please on Application.

FIRE
BRICKS,
FIRE TILES,
AND
FIRE CLAY
GOODS

OF ALL DESCRIPTIONS

WHITE & BUFF
FACING BRICKS,

Moulded and Ornamental Brick Work.

BROWN SALT-GLAZED
FACING BRICKS,Paving Bricks, Coping Bricks,
RADIATED SEWER BRICKS,
Ventilating Bricks & Girds, in Stoneware
or Terra-Cotta.COPING FOR WALLS.
Trusses, Vases, Balustrades,
Terra-Cotta Chimney Tops,

&c., &c.

ALL GOODS ARE MADE IN BLUE, RED, BROWN, AND BUFF COLOURS.

TELEGRAPHIC ADDRESS
WHEATLY TRENTVALLS

WHEATLY & Co.,

Springfield Tileries, NEWCASTLE, STAFFS.

The Works are situated in North Staffordshire, so justly celebrated for its fine Marl deposits, containing peroxide of iron, which, fluxing during the process of firing, gives that impervious body so well known as Staffordshire Blue.

The Red and Buff Goods are made from carefully-selected Marls, of dense and Adamantine character, and are of great durability.

Roofing Tiles can be supplied in Blue, Red, or any shade of Brown, and will be found extremely durable, resisting all influence of weather and chemical action of the atmosphere.

FLOORING TILES.

PRESSED ORDINARY QUALITY.

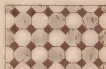
REGISTERED TRADE MARK.	4x4x1	QUARRIES, 37/6	30/- per 1,000
	6x6x1	" 37/6	42/6 "
	8x8x1	" 37/6	" "
	9x9x1	10/0	12/0 "
	12x12x1	2/6	50/0 "

PRESSED CROWN QUALITY.

TRADE MARK.	4x4x1	QUARRIES, 37/6	30/- per 1,000
	6x6x1	" 37/6	42/6 "
W & C	8x8x1	" 37/6	" "
	9x9x1	10/0	12/0 "

PRESSED DOUBLE-CROWN QUALITY.

	TRADE MARK.	4x4x1	QUARRIES, 40/-	48/-	per 1,000
		6x6x1	" 40/-	50/0	"
		8x8x1	12/0	14/0	"
		9x9x1	10/0	12/0	"
		12x12x1	2/6	50/0	"
		12x12x1	2/6	50/0	"



No. 9



No. 12



No. 21



No. 26

ROOFING TILES.



No. 302



No. 303



No. 304

UNION ROOF ON TOP COURSE TILE



No. 305

VENTILATING TILE



No. 306

No.	304	305	306
Size	12" x 12"	12" x 12"	12" x 12"
Price	37/6	37/6	37/6
Per 1,000	37/6	37/6	37/6

WHEATLY & CO., Springfield Tileries, Newcastle, Staffs.

ALL GOODS ARE MADE IN BLUE, RED, BROWN, AND BUFF COLOURS.

GROOVED RIDGE ORNAMENTS.

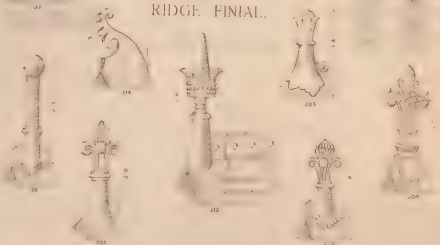


FAST TOP RIDGES.



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RIDGE FINIAL.

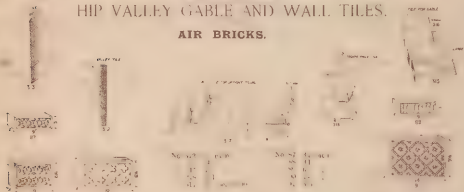


WHEATLY & CO., Springfield Tileries, Newcastle, Staffs.

ALL GOODS ARE MADE IN BLUE, RED, BROWN, AND BUFF COLOURS.

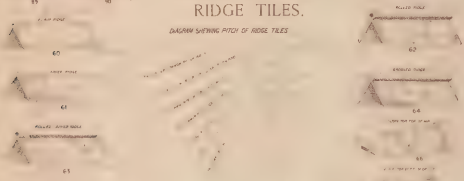
HIP VALLEY GABLE AND WALL TILES.

AIR BRICKS.

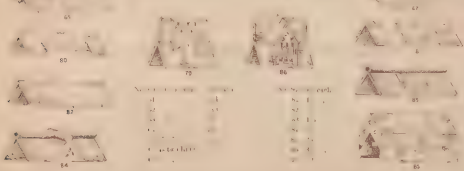


RIDGE TILES.

DIAGRAM SHOWING PITCH OF RIDGE TILES



VENTILATING RIDGE TILES.



WHEATLY & CO., Springfield Tileries, Newcastle, Staffs.

ALL GOODS ARE MADE IN BLUE RED BROWN AND BUFF COLOURS

BRICKS.

PLINTH STRETCHER 110
 PLINTH PLINTH 111
 EXTERIOR WIDE PLINTH 112
 INTERIOR WIDE PLINTH 113
 CORNER 114
 PLINTH MOULD 115
 STAFFS FINE MOULDED BRICKS 116
 BLUE MOULD 117
 BLUE MOULD ANGLE 118
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BLUE VITRIFIED STABLE, PAVING AND KERB BRICKS.

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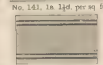
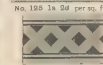
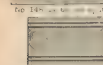
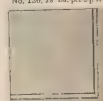
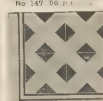
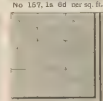
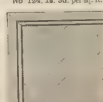
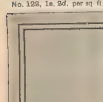
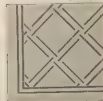
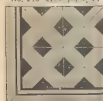
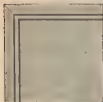


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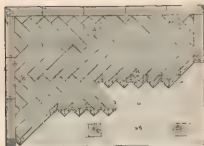
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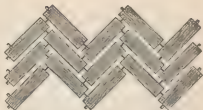
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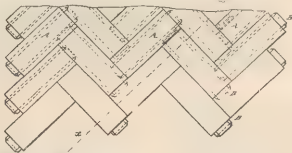
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This diagram gives isometrical view of block. The blocks are dovetail rabbeted on the under sides, as shown at A & a, and continued to form tongues at B & b.



This is a section of the flooring through x x.
(See above illustration.)

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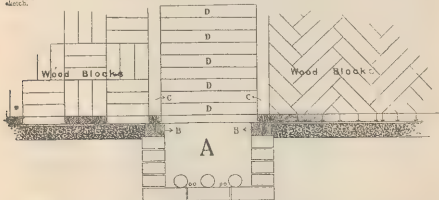
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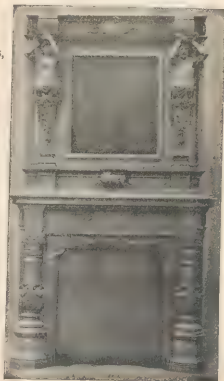
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1½in. by 1in.	...	" 6 10	3½in. by 1½in.	...	" 15 3
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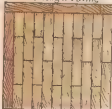
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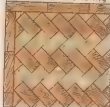
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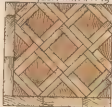
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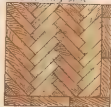
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EXPENSES	and 4 " " yard ... 2 1/2d	2 1/2d	3d	2 1/2d	3d	3 1/2d	Carriage, &c.
INCLUDED.	Nos 5 and 6, extra per square ... 13 1/2d	14d	16d	13 1/2d	14d	16d	
	Burntising, extra per square ... 1/10	2/9	3/6	1/10	2/9	3/6	
	" " " yard ... 3d.	3d	4d	3d	3d.	4d.	

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Designs & Price Lists on Application.

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GOLD MEDAL, SOCIETY OF ARCHITECTS, 1886 & 1887.

GOLD MEDAL, LIVERPOOL, 1885.

SILVER MEDAL, HIGHEST AWARD, INVENTIONS EXHIBITION, LONDON, 1884.

GOLD MEDAL, HEALTH EXHIBITION, LONDON, 1884. FIRST DIPLOMA, DELFT, 1885.

The following Awards also made for Hydrofuge Flooring—

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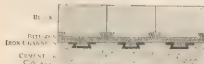
APPLICATION.

PARQUET ON PATENT HYDROFUGE SYSTEM FOR LAYING ON CONCRETE, ALWAYS IN STOCK. FOR DESCRIPTION SEE BELOW.

ELEVEN GOLD MEDALS AND HIGHEST AWARDS.

EBNER'S PATENT HYDROFUGE SYSTEM FOR FLOORS.

FIREPROOF, DAMP PROOF NOISELESS, FREE FROM DRAUGHT AND PROOF AGAINST RAVAGES OF LEYROT, VERMIN, OR DISEASE GERMS



By this System a PERFECT and DIRECT KEY is obtained between the WOOD BLOCKS and the CEMENT FOUNDATION, by means of a hard setting BITUMEN, which FORMS A DAMP COURSE. The Bitumen is applied hot in a fluid state, and sets hard.

The Metal Channels shown in black are pressed into the cement floating whilst plastic. THE KEY FORMS ITSELF AUTOMATICALLY, and therefore can neither be FORGOTTEN OR SCAMPED UPON. COMPARISON this System will be found to be the ONLY ONE giving an ABSOLUTE KEY into foundation; which is vital.

INFRINGEMENTS. Having recently had to enforce Royalties in instances where my Patent had been pirated Architects are warned against persons proposing to lay the above, or any system of Wood Block or Parquet Floors with a direct attachment to the underfloor by means of undercut grooves, or oblique holes into which the bitumen sets.

References to Works Executed on application.

For Ebner's Mosaic Floors see Page 501.

Telegraphic Address

"GODDARD, FARNHAM"

GODDARD'S PATENT WOOD BLOCK FLOORING.

"Simple, Perfect, and Immovable."

THIS system of Wood Block Flooring has stood the test of time, and is pronounced to be the best, most simple, and perfect floor yet introduced. The Blocks are grooved at the sides, with a tongue or tenon on the ends, fitting closely together, (see Fig. 1), forming, when laid, a perfect dovetailed, immovable floor. The tongue being cut on the ends of Blocks, there are no loose parts which by carelessness or negligence of workmen can be omitted. The Blocks are laid in a damp-proof composition, firmly securing them to the cement bed, and although many hundred thousands squares have been laid, in no instance have they failed or worked loose.

These Blocks are manufactured from the very best and most seasoned woods, specially imported, in Fitch Pine, Deal, Wainscot, and Teak.

There are a variety of patterns in which these floors can be laid, the Herring Bone (No. 1), however, is the cheapest and one of the most effective.

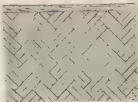
Reference given to a large number of Churches, Colleges, Convents, Institutes, Banks, Schools, Clubs, &c., amongst others the Imperial Institute, Bishopsgate Institute, Bank of England, London & County Banks, Capital & Counties' Banks, &c.; St. George's Church, Hanover Square, W.; St. Saviour's Church, Southwark, S.E.; Eton College; Royal School of Music, Kensington, W.; New Church House, Westminster; Cambridge Municipal Buildings; Head Quarter Offices, Aldershot Camp.



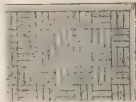
Fig 1



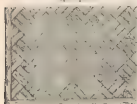
No. 1



No. 2



No. 3



No. 4



No. 5



No. 6

Price and further particulars on application to the Patentees—

GODDARD & SONS, WOOD BLOCK FLOORING WORKS, FARNHAM, SURREY.

H. HERMANN, Ltd.,
11, Dod Street, Limehouse, London, E.



No. 69



No. 56



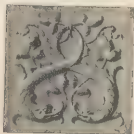
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Catalogue on application.

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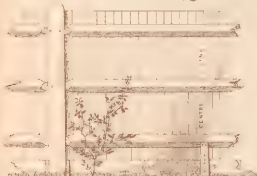
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Ye Olde Park Pale Fencing

IN SOLID BRITISH OAK

without capping

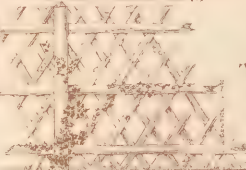


with capping



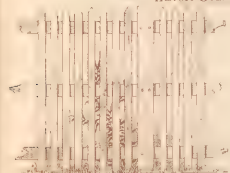
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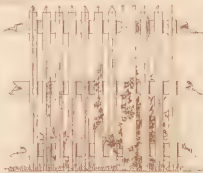


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Larch Diamond Rastic Fence

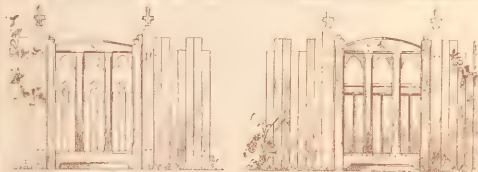
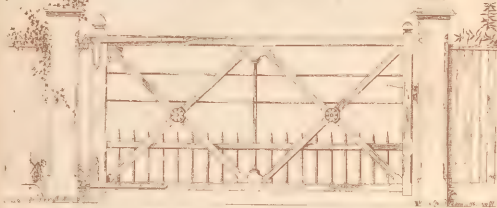


Palisade Fencing

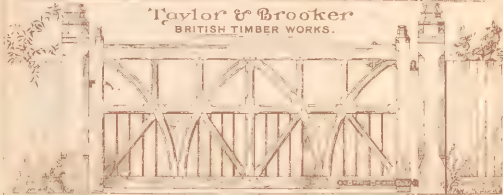


Grass Palisade Fencing

Entrance Gate
IN SOLID BRITISH OAK



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* Photos of these and other floors in Art Parquetry on application.

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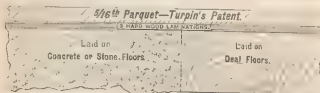
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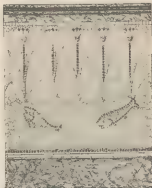
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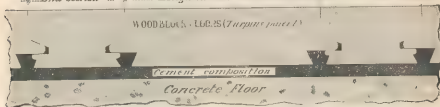
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WOOD BLOCK FLOORING (TURPIN'S PATENT),

OAK, ANTISEPTIC BEECH, TEAK, PITCH PINE, DEAL, 1, 1½, 2 inch thick in Stock.

*.....End Section Longitudinal SectionEnd Section *



1 in. OAK BLOCK FLOORING.

At 4/10½ per yard super.

Prepared on TURPIN'S PATENT SYSTEM of laying on Concrete, Wood, and Stone Floors, perfectly interlocking all the Sections with each other by means of specially constructed grooves and tongues rendered further bonded and secured to foundation by means of dovetail groove joints filled in with Waterproof Patent Cement Composition.



The dotted lines shown on the drawing illustrate in perfect detail the system of interlocking the Blocks with each other.

1 inch ANTISEPTIC BEECH BLOCK FLOORING,

At 4/6 per yard super.

Prepared by TURPIN'S System of Antiseptic infusion, by which the sap is forced out of the wood and replaced by ANTISEPTIC CHEMICALS, at the same time hardening the timber, especially adaptable for CHURCHES, BOARD SCHOOLS, HOSPITALS, and other public buildings, as the spread of fever and contagious diseases is effectually prevented by its use.

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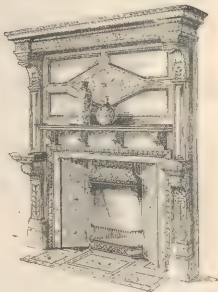
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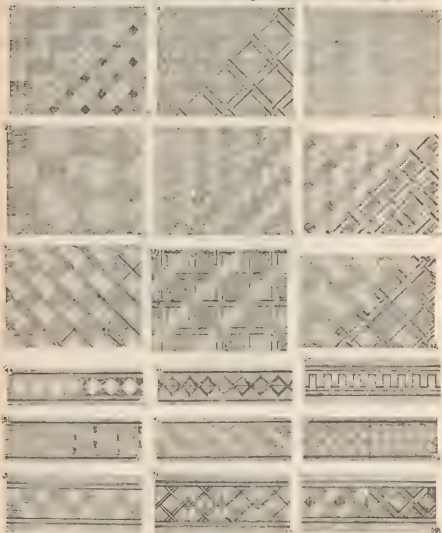
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Designs for Parquet Floors. Sheet No. 2



PORTABLE PARQUET FLOORS

ON HIRE

Dangers and Prices on Application.

FILLINGS

	in.	in.	in.	in.	in.	in.
	Thick.	Thick.	Thick.	Thick.	Thick.	Thick.
No. 1	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
No. 2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
No. 3	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
No. 4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
No. 5	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
No. 6	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2

BORDERS WITH FILLINGS

	in.	in.	in.	in.	in.	in.
	Thick.	Thick.	Thick.	Thick.	Thick.	Thick.
No. 1	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
No. 2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
No. 3	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
No. 4	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
No. 5	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
No. 6	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2

COMPLETE PRICE LISTS ON APPLICATION.

SEE PAGES 518 AND 519 FOR DESCRIPTIVE PRICE LISTS OF MOSAIC AND MARBLE TILL DESIGNS

SHEET No. 4.

DESIGNS & SPECIFICATIONS

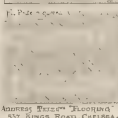
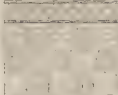
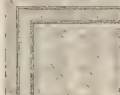
TELEPHONE No. 8,067.

Approximate Prices for Laying

R. Add 5' to

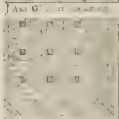
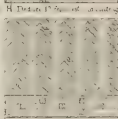
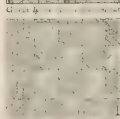
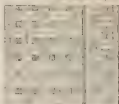
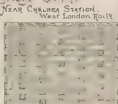
R. Add 5' to

C. Add 5' to

ADDRESS: "FLOORING"
557 KINGS ROAD, CHELSEA.

Westminster Pat. Flooring Coy.

557 Kings Road, Chelsea, S.W.

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Near Chelsea Station,
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K. Add 5' to

L. Add 5' to

M. Add 5' to

WRIGHT & CO. SURREY

FIXING BUILDING - FIXING BLOCKS

WRIGHT'S WELL KNOWN FIXING BLOCKS
ARE MADE OF FIREPROOF CONCRETE
THEY AFFORD A PERFECT HOLD FOR NAIL & SCREW,
ENTIRELY SUPERSEDE WOOD PLUGS GROUND ETC
DO NOT BURN SHRINK OR DECAY IN WALLS
STAMPED ON (W.F.B) EVERY BLOCK
SIZES AND PRICES

NETT ON RAIL NEW MALDEN

FOR - JAMB - LININGS - ETC

Size 1 ($9 \times 4\frac{1}{4} \times 2\frac{3}{4}$) London & South £5 per M
" 4 ($9 \times 4\frac{1}{4} \times 5\frac{1}{8}$) North County £6 " "

FOR - SKIRTINGS - MATCH - BOARDING - ETC

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FOR - PERMANENT - WEATHER - TILING

NO PLUGGING - NO BATTENS - NO NAILING - TO JOINTS

NO RISK OF WIND STRIPPING

Size 7 ($9 \times 5\frac{1}{8} \times 1\frac{1}{2}$) 7/9 per M
N.B ABOUT 3 1/2 BLOCKS PER YD SUP. OF TILING

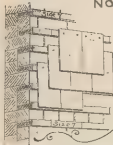
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DRY ROT IS PRACTICALLY
PREVENTED BY COATING
UNDERSIDE OF BOARDING
WITH CARBOLINEUM & TAR

Size C 12×5 (high) $\times 2\frac{3}{4}$
price 2' each or
per ft lin
SOLID NOISELESS FLOOR

PER HALF INCH PACKING

OF SAWDUST OR OTHER SUITABLE
MATERIAL UNDER BOARDING BETWEEN
THE FIXING BLOCKS



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(PATENT APPLIED FOR).

By this New System a perfect adhesion to the Concrete is secured by simply bedding the Blocks in Portland Cement Grout.

LONGITUDINAL SECTION OF BLOCK

ADVANTAGES

CLAIMED.

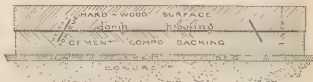
Absolute Hold-down.

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Economy!

Solidity!

Floors finish 1 Inch thick.



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SOUND Not a single joint introduced beyond parting-boards.
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STRONG. No warping, twisting, or any other defect.

UNEQUALLED FOR MULLION WINDOWS.

MORE LIGHT—equal to any other, and cost of fittings more than 50% less than Mullions.
EXTENSIVELY USED FOR HOTEL BAR WINDOWS.

USED BY LEADING ARCHITECTS, for Hospitals, Workhouses, Hotels, &c.

HEALTHY—no draught, and no danger of an oblique and upward draught. No direct draught.

PRICE FOR FITTINGS FROM 5- to 12 PER SET.

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MANUFACTURERS OF

MOULDINGS, DOORS, WINDOWS, HANDRAILS, NEWELS, BALUSTERS,
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And 6, York Buildings, Dale Street, Liverpool.

Telegrams, "MOULDING, LONDON," "PINETREE, LIVERPOOL."

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First-Class Machinery,

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LATEST IMPROVEMENTS.— 0 —
ESTABLISHED 1870.**R. G. TICKLE
AND SON,**

ENGLISH & FOREIGN

TIMBER MERCHANTS,

SAW MILL

PROPRIETORS,

HOME AND EXPORT
PACKING CASE
MAKERS.

Saw Mills, 38 to 37,

Seasoning Sheds

AND

Store Yard, 47 to 58,

BLACKSTOCK ST.,

LIVERPOOL.

Seasoned Stocks of
**MAHOGANY,
WALNUT,
WHITEWOOD,
YELLOW PINE
LOG PINE,
OAK, ASH,
BIRCH, &c.,**
Ready for use.

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TRADE MARKS
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**NOISELESS · WARM · DRY · NON-SLIPPERY · PROOF ·
AGAINST DAMPNESS & DRY ROT · SANITARILY PERFECT ·**

SECTIONS OF FLOORS LAID BY THE W.B.F.C.



GEARY'S PATENT INVINCIBLE SYSTEM

EVERY BLOCK IS SECURED TO THE SUB-STRUCTURE BY MEANS OF METAL KEYS OR STUDS OVERTAILED INTO THE BLOCK. ONE END OF THE KEY BEING FIRMLY EMBEDDED IN THE MASTIC, ETC.



NO OTHER SYSTEM POSSESSES THIS ADVANTAGE FOR FLOORS WHICH WILL BE SUBJECTED TO HEAVY TRAFFIC AND ROUGH USAGE. THIS SYSTEM IS INCOMPARABLE AS THE BLOCKS CANNOT BE LOOSENED.



THE FOLLOWING PRICES ARE APPROXIMATE: ONLY Special Orders by

RED or YELLOW DEAL	3"	11"	5"
WHITE WOOD	3"	11"	5"
PITCH PINE	3"	11"	5"
BIRCH	3"	11"	5"
BEECH	3"	11"	5"
MAPLE	3"	11"	5"
KAURI PINE	3"	11"	5"
OAK (WAINSCOT)	3"	11"	5"
WALNUT	3"	11"	5"
TEAK	3"	11"	5"
JARRAH	3"	11"	5"

Per Super Yard LAID COMPLETE including all expenses and ordinary cutting to square walls for not less than 150 yards. (IN FAIR AVERAGE SPACES)

IF LAID as per SECTION B) 9d. per yard extra

When applying for QUOTATIONS A FIGURED PLAN (newspaper size) SHOULD BE SENT.

ALL BLOCKS are thoroughly seasoned.

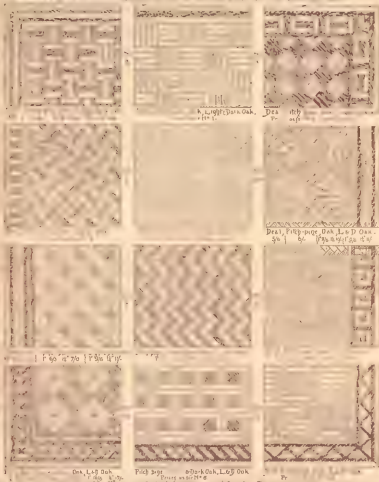
Parquet Floors — 1 1/2" solid laid complete. Estimates given on receipt of particulars.

SPECIFICATION — Architects are respectfully asked to describe as follows: To be laid complete by the WOOD BLOCK-FLOORING Co. of Queen Victoria St.

11, QUEEN VICTORIA ST. LONDON E.C. 4

The Wood Block Flooring Co.

7, QUEEN VICTORIA STREET, LONDON, E.C.



THE WOOD BLOCK FLOORING CO.



11, QUEEN VICTORIA ST., LONDON, E.C.,

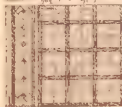
And at 46a, MARKET STREET, MANCHESTER.



1. Filling 1" x 1" x 1/2" x 1/2" per ft. sq.
Border - 1" x 1/2" x 1/2" x 1/2"



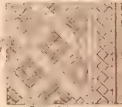
2. Filling 1" x 1" x 1/2" x 1/2" per ft. sq.
Border - 1" x 1/2" x 1/2" x 1/2"



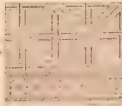
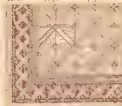
4. Filling 1" x 1" x 1/2" x 1/2" per ft. sq.
Border - 1" x 1/2" x 1/2" x 1/2"



5. Filling 1" x 1" x 1/2" x 1/2" per ft. sq.
Border - 1" x 1/2" x 1/2" x 1/2"



6. Filling 1" x 1" x 1/2" x 1/2" per ft. sq.
Border - 1" x 1/2" x 1/2" x 1/2"



THE WOOD BLOCK FLOORING CO. has a large stock of all the latest designs in Parquet and Mosaic, and is prepared to execute orders for all kinds of Parquet and Mosaic work, and to supply the materials and labor for the same. The designs are all of the latest and most fashionable, and are executed in the most perfect manner. The prices are very reasonable, and the work is guaranteed to be of the highest quality. The designs are all of the latest and most fashionable, and are executed in the most perfect manner. The prices are very reasonable, and the work is guaranteed to be of the highest quality.

ONLY THE NUMBER ON THIS SHEET NEED BE GIVEN

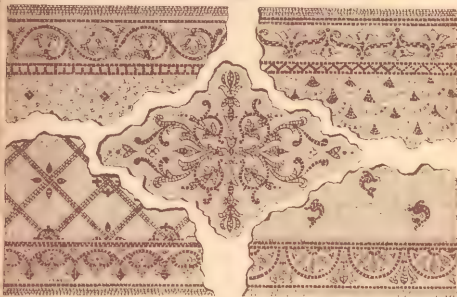
11, QUEEN VICTORIA STREET, E.C. Mansion House Chambers

MOSAIC DEPT.



Wood Block Flooring Co.

Marble • Mosaic • Terrazzo • Gypsum Panels



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EOPHOS LONDON
EOPHOS MANCHESTER

— FIREPROOF FLOORING, TERRAZZO —
AND GRANITE CEMENT & TILING CO. LTD.

11, QUEEN VICTORIA STREET, LONDON, E.C.



Section C.

Cements, Slates, Felts, Asphaltes, Etc.

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GEORGE ATKIN & CO.,

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(SUCCESSORS TO THE LIVERPOOL ASPHALTE Co.) Established 1832.

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Asphalting in all its Branches by competent Workmen, with British or Natural Asphalt in all parts of the Kingdom.

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Dealers in every description of Building Material, Cements, Plaster, Fire Bricks, Drain Pipes, Slates, &c., &c.

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THREE METHODS OF APPLYING ANDERSON'S SILICATE COTTON, OR SLAG WOOL, For SOUND, and FIRE-PROOFING BUILDINGS.

(AS SHOWN IN SKETCH.)

APPLICATION TO ROOFS.

Between rafters fix match boards in same way as sound-boarding shown on floor below, leaving a smaller space of 1 or 1½ inches which fill with Silicate Cotton.

It will be necessary to fix horizontal strips of wood about every two feet, to prevent the Cotton sliding down, which it otherwise naturally would do on a sloping plane.

Felt may then be placed over the rafters and spaces filled with the Cotton. This will prevent any damp getting in.

Outside the felt, fillets of wood are run along rafters to raise the tile-fillets sufficiently to dispense with their being increased in depth; the tile fillets are then nailed to rafters through the felt, and tiles fixed as usual.

The section of roof, a portion having tiles stripped, fully illustrates this.

This method applies to slate roofs as well.

Cost same as Pugging (see below).

APPLICATION AS PUGGING.

For this purpose, the loose Silicate Cotton being completely Vermin-proof, has many advantages over ordinary Pugging materials, which are usually applied damp, a space being left for evaporation. This can be dispensed with by using Silicate Cotton, which is applied dry.

The sound-boards can be brought within 1½ inches (or whatever thickness it is proposed to put) of the flooring, thus increasing the air-space between ceiling and sound boards, and consequently adding to the required result of non-conducting.

To prevent sound travelling through the joints a strip of felt should be placed along them, and the boards nailed upon this. The cost is very small, and the result satisfactory.

The cost of Silicate Cotton for this purpose is about 1½d. per square foot, 1½ inches thick.

Section of second floor illustrates this method.

Silicate Cotton being so light, can be applied as Pugging upon the ceiling laths, thus dispensing with sound-boards; but this method is not so effectual as this described above.

APPLICATION IN WIRE NETTING,

(i.e., Silicate Cotton made up in slabs between Galvanized Wire Netting).

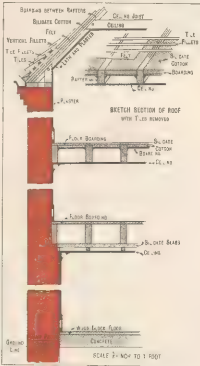
Making a perfectly FIRE and SOUND-PROOF Floor.

The Silicate Cotton is formed into slabs by placing it sandwich fashion between ordinary wire netting, in suitable widths and lengths.

The slabs are then attached to the under side of joists, and fillets of wood nailed through them to the joists. The laths are nailed as usual, across, and the space above by the fillets leaves ample keying-room for plaster.

The slabs being so light, no increase in sizes of scantlings is required.

Section of first floor illustrates this method.



FELTS

MANUFACTURED BY

D. ANDERSON & SON, LIMITED.

FELT, either Roofing, Sarking, or Inodorous, should be placed under all Slates, Tiles, and Zinc upon Roofs.

Being a non-conductor, it prevents radiation of heat in Summer, and the escape of it in Winter. It makes a better bed for Slates or Tiles; and being perfectly Waterproof, in case of Slates shaking or cracking, stops damp from making its way into the house. Its extreme Cheapness makes the extra cost of no account when the great benefit and comfort derived from its use are considered.

ROOFING FELT.

Makes a light, durable, cheap, and permanent Roofing of itself; and being a non-conductor of heat, when placed under Slate or Metal Roofs, it resists alike the extremes of heat and cold. When used along with the Asphaltic laid on Brick Arches, Platforms, or Floors, it prevents cracks or fissures and leakage.

In rolls of 25 yards, 32 ins. wide, price 8d. per running yard, or 3d. per square foot.

SLATER'S OR SARKING FELT.

A Felt of the same character as Roofing Felt, but thinner in substance and more pliable, and for this reason easier worked under Slates.

Price 6d. per running yard, or 1/4d. per square foot.

FELT VARNISH.

8d. per gallon. In boxes of 2, 3, 4, 5, and 6 gallons, or barrels of 25 gallons.

FOUNDATION FELT, OR DAM COURSE.

Made in strips of 2 ft. 8 ins. long, is wide to suit the various thicknesses of walls, is the most effectual preventive against damp rising from foundations; and being of fibrous nature, is not liable to crack through the unequal subsidence of walls or other causes.

Price 1 1/2d. per square foot. The following sizes are usually kept in stock:—

4 1/2 x 32	14 x 32	23 x 32	30 x 32
9 x 32	18 x 32	27 x 32	36 x 32

PATENT INODOROUS FELT,

For lining Damp Walls, preserving Wall Papers, and deadening sound. Highly recommended for Metal Buildings.

Price 8d. per running yard, 32 ins. wide, or 1d. per square foot.

NON-CONDUCTORS.

DRY HAIR FELTS,

For clothing Boilers and Steam Pipes to preserve the heat; covering Water Pipes and Cisterns to exclude the frost; and lining under Roofs, &c., to equalize the temperature.

In sheets: size, 34 x 20 ins.

No.		Weight about	Per sheet.
1.	For Roofs, &c.	3 1/2 lbs.	8d.
2.	" "	1 "	3d.
3.	" "	1 1/2 "	9d.
4.	Water Cisterns, Pipes, &c.	2 "	11d.
5.	Steam Boilers and Pipes	2 1/2 "	1/1
6.	Large Boilers, &c.	3 "	1/3

Also in long lengths.

SILICATE COTTON SLABS,

(Being Silicate Cotton sandwiched between Galvanized Wire Netting), for use where the loose material cannot be conveniently applied.

1 in. thick, 6d.; 1 1/2 ins., 8d.; 2 ins., 10d.; 2 1/2 ins., 1/1-3 ins., 1/2 per square foot. Size of Slabs according to requirements.



NON-CONDUCTING SILICATE CLOTH

Being Silicate Cotton woven on Cloth Backing, (see annexed illustration) is the handiest and, being a perfect insulator, is in reality the cheapest, non-conductor obtainable.

Pipe covering—

	Per sq. foot.
Yarn Warp, 4 ins. wide, 1 in. thick	8d.
Wire " " " "	8 1/2d.
Boiler Covering—	
Yarn Warp, 12 ins. wide, 1 1/2 ins. thick	8d.
Wire " " " "	9d.

Packed in cases containing about 50 square feet.

ANDERSON'S PATENT HAIR FABRIC.

A cheap and convenient method of applying Dry Hair to Pipes, &c., the Hair being combined with Cloth Backing, as shown in annexed illustration, for winding round Pipes, which can be done very rapidly by any unskilled laborer.

FOR PIPES AGAINST WALLS.

It is manufactured with a margin of canvas, and in this way can be nailed upon each side, enclosing the Pipe. Kept in stock in lengths about 24 ft. long and 4 ins. wide, 1 in. thick. Price 6d. per square foot.

Plasterers', Foundry, Barge, and Clean Cow Hair.

We would respectfully request Architects to specify, and Builders to use, our Felt, to ensure a genuine article, as much Felt of inferior quality is offered, the use of which only brings the article into disrepute.

OUR BRAND IS ON EVERY YARD OF FELT WE MAKE.



D. ANDERSON & SON, LIMITED,
LAGAN WORKS, BELFAST.

AND
812, OLD FORD ROAD, BOW, LONDON, E.

DÉPÔTS: LIVERPOOL, GLASGOW, AND MANCHESTER.

ESTABLISHED 1814

E. J. BISHOP & SON,*Billington Road, Leighton Buzzard, Bedfordshire.*

Silver and Building Sand, Sand Stones, Flints, Peat, Loam, Mould, Whiting, and Gravel Pits.

Bright, Clean, Sharp Sand, Best and Cheapest for Building Purposes.

Especially adapted for Cement Work and Filtering Purposes.

BISHOP'S FIRE PROOF COMPOSITION, for the back of Fire Bricks of any description, which are burnt away, cracked, disfigured, or too large and burn lost wastefully. It is sent out by us in a pliable state, something like dough and can be worked as desired. Instructions sent how to use same.

POTTER'S CLAY, CHINA CLAY, MOULDER'S CLAY, AND TOBACCO PIPE CLAY.Also Manufacturers of **ASBESTOS FUEL** for GAS FIRES.

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**Portland Cement****H. F. CURRIE & CO.,**

Offices—ALBERT BUILDINGS, FRESHMAN'S ROW,

Stores—NOVA SCOTIA, CANNING DOCK,

LIVERPOOL

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London Portland Cement, Plaster of Paris, Gypsum, Lime, Pavement, Bricks,

Crushed Granite, Fire-Clay Goods, Slates, Whiting, China Clay, &c.

Double Lever Automatic Cement Testing Machines, and Arnold's Patent Testing Plant.

SPECIAL FACILITIES FOR EXPORT ORDERS.

Over 50,000 tons supplied to Manchester Water Works, Liverpool Corporation, Mersey Tunnel Extension, and Mersey Docks and Harbour Board.

REVOLUTION in PLASTERING for CEILINGS, WALLS, PARTITIONS, &c.**JUNG'S PATENT PLASTER SHEETS,**As Exhibited at the **BUILDING TRADES EXHIBITION, LONDON, 1895.**

THESE Sheets, which have been recently greatly improved, are fast finding favour with Architects and Builders, owing to the many advantages they possess over ordinary Lath and Plaster work. The cost being no more.

The Sheets have been tested by Messrs. DAVID KIRKALDY & SONS, of London, and have been proved to stand an average strain of over 1 cwt. to the square foot.

Principal Advantages.

Great Saving of Time effected in the Completion of Buildings.

Cheapness combined with Strength.

High Fireproof Qualities

Cracked Ceilings an Impossibility—cannot Crack or Chip.

Deadens Sound to a great extent.

Secure greater Protection against Damp, and are more satisfactory from a Hygienic point of view in every way.

Delivered perfectly DRY, and are in no way affected by frost.

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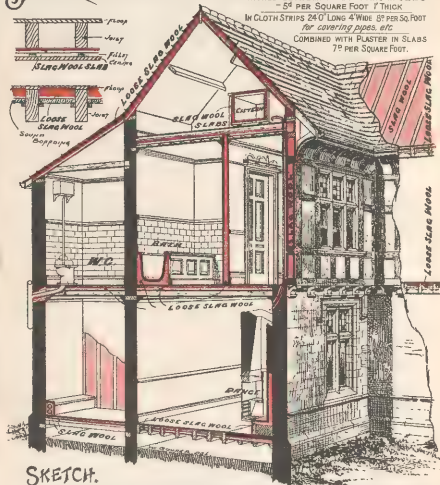
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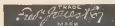
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FELTS FOR UNDER CARPETS.
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PLASTERERS' HAIR

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Also for preventing the radiation of Heat or Cold either in Floors, Ceilings, Walls, or Roofs

One Ton will cover 2,000 Square Feet one inch thick



Prices greatly reduced.

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Sound Proof. Vermin Proof. Frost Proof. Fire Proof.

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[SEE ALSO FOLLOWING PAGE.]

F. McNEILL & CO.,

Felt and Slag Wool Manufacturers,

IMPORTANT GOVERNMENT TESTIMONIAL.

Extract from the Speech of MAJOR-GENERAL SIR FREDERICK SMITH, R.E.

Delivered to the House of Commons, June 9th, 1877.

Speaking of the Asphalted Felt Roofs of the Huts at the Aldershot Camp which were wholly done by Messrs. F. McNEILL & CO., Major General Smith said:—

"The Felt Roofing is extremely good and water-tight, will last for years, in my opinion, as long as the Huts stand, by proper attention being paid to them."

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FELTS.

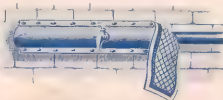
Patent Asphalted Roofing,
Slates' or Sarking.
Inodorous or Bituminous.
Dry Hair, for Sound Deadening.

For under Slates,
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Fibrous Asphalte or Foundation Felt
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See also previous page.

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Has been laid by this Company in hundreds of the most important Streets in London and the Provinces, and is strongly recommended for its Cheapness, Durability, and for Sanitary reasons.

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IS ESPECIALLY
ADAPTED FOR ROOFS, FLOORS,
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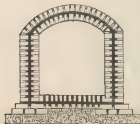
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The Hygeian Rock Composition is now in use in all parts of the world, and is the only material of the kind.



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The material will keep good any length of time, even in the most severe weather, and is not affected by acids or alkalis.

The Hygeian Rock Composition is now in use in all parts of the world, and is the only material of the kind.

Section D.

Engineering, and Iron, Steel, AND Fireproof Construction.

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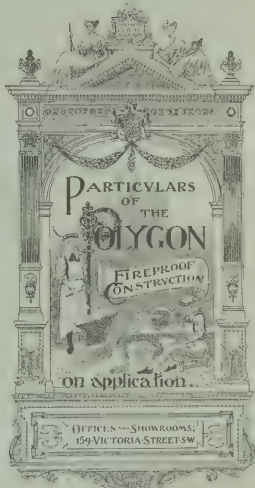


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The covering of ceiling from floor prevents the conduction of system.

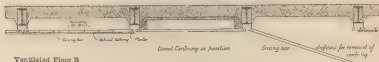
The spacing of the Steel Joists is entirely optional, and can vary from a ft. to 10 ft. The Floor is consequently not only the most Fireproof and most Sound proof, but the lightest and Least Expensive of all Fire-resisting Floors.

This Patent System of Fireproof Flooring is the only one by which the Steel Joists are perfectly protected.

The Floor and Ceiling being separated, an air-chamber for ventilation is formed, which is co-extensive with the area of the floor.

The Ceiling is in itself Fireproof, and cannot be detached from the Metal Lathing when subjected to water.

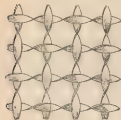
Joint Heat and Sound, desiderata unattainable by any other



Ventilated Floor B

BANKS' PATENT HELICAL METAL LATHING.

MADE OF FLAT STEEL WIRE OR RIBBON TWISTED & WOVEN INTO MESHES OF CONVENIENT SIZE



HELICAL LATHING.

The Lathing combines the following advantages:—

The amount of metal used is the minimum consistent with the requisite strength.

Its key is perfect and uniform under all circumstances of fixing, whether vertical as in walls, horizontal as in ceilings, or curved as in coves and cornices. It can and should be completely imbedded in the plaster.

It can be made of any requisite length or width, and the strength of the metal can be adapted to the work.

It is the most easily fixed of all metal lathings, and each sheet can be united to its neighbour without wire.

It is not formed of iron sheets, which are liable to expansion and rust, more especially so when the greater part of one surface is exposed.

It does not cut the hands.

Orders for over 30,000 yards were received within twelve months of its introduction.

10,000 yards always in stock. Stock size, 10 ft. 6 in. by 2 ft. 6 in.

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South-Eastern Hospital, London, S.E. } Asylums
Park Hospital, Lewisham } Board
London Hospital, Whitechapel, E.
Infectious Diseases Hospital, Portsmouth
Cottage Hospital, Basing
Portsea Union Infirmary, Portsea
Portsmouth Asylum, Ireland (Helical Lathing)
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New Chapel for Infirmary, Bath.
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Bute Dock Offices, Cardiff.

Harrod's Stores, Limited, Brompton Road, London.
School of Science and Art, Folkestone.
Technical Institute, Southampton.
Hotel Metropole, Folkestone.
Three Nuns House, High Street, Aldgate, E.
Residential Chambers, Basil Street, Chelsea (for Harrod's Stores, Limited).
Mansions, Drayton Gardens, S.W.
Army and Navy Mansions, Victoria Street, S.W.
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KITCHENERS
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STEAM BOILING PANS
SERVING TABLES
BAKING PANS
AND
VEGETABLE STEAMERS



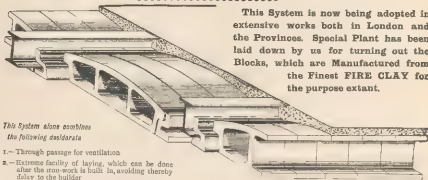
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HOT PLATES,
HOT CLOSETS,
TOASTING FIRES,
SCULLERY SINKS,
STILL ROOM,
LARDER, AND
PANTRY FITTINGS

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ART METAL WORKERS.

See Sections G and J

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the following desiderata*

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- 2.—Extreme facility of laying, which can be done after the iron-work is built in, avoiding thereby delay to the builder
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- 4.—Complete protection of under side of iron-work.
- 5.—Great strength in proportion to weight and accommodation to any load

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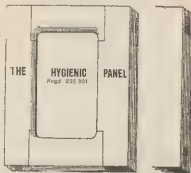
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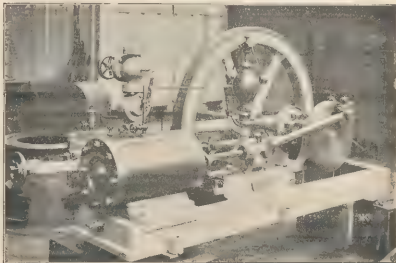
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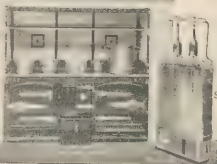
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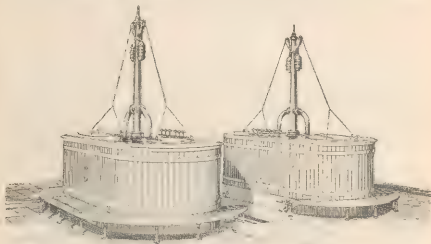
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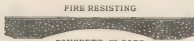
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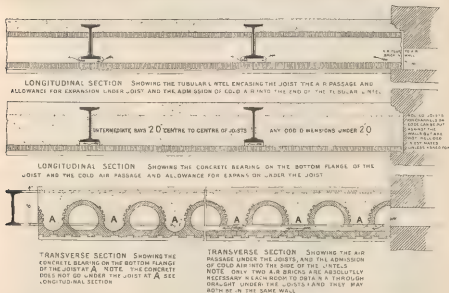
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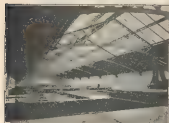


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THE FOREMOST ARCHITECTS AND CIVIL ENGINEERS IN THE WORLD HAVE DELIBERATELY ADOPTED THE FAWCETT FLOOR IN PREFERENCE TO ALL OTHERS ON ACCOUNT OF 1ST FIREPROOF QUALITY 2ND SANITARY VALUE 3RD STRENGTH 4TH STRENGTH 5TH EASE AND QUICKNESS OF CONSTRUCTION 6TH CHEAPNESS



CONCRETE WITH INTELS REMOVED



IRON ROOF CONSTRUCTED AND ERECTED OVER WAREHOUSES WATERLOO STATION LIVERPOOL FOR THE LONDON AND NORTH WESTERN RAILWAY COMPANY

ESTIMATES GIVEN FOR ALL KINDS OF CONSTRUCTIONAL STEEL AND IRON WORK FROM SMALL SCALE DESIGNS DETAILS SUPPLIED TO SHOW WHAT IS INCLUDED WHERE NECESSARY



STEEL VENTILATING DOME CONSTRUCTED AND ERECTED AT THE NEW ADMIRALTY BUILDINGS HORSE GUARDS PARADE LONDON FOR HER MAJESTY'S GOVERNMENT

TELEPHONE NO 3078

MARK FAWCETT & CO. 50 QUEEN ANNES GATE, WESTMINSTER

TELEGRAPHIC ADDRESSES "SHADRACH" PHILADELPHIA "MESHACH" PARIS "ABEDNEGO" LONDON

GARDINER, SONS, & Co., Ltd.,

NELSON STREET & ALL SAINTS' IRON WORKS, BRISTOL.

Telegraph & Address—
"Guardsmen, General."

Hand Power Dinner, Book and Restaurant Lifts.



E. 640

PARCEL OR CHOP LIFT

Suitable for Shops,
Luncheon Bars, &c.,
complete and ready
for erection exclu-
sive of cockrobes.

Size of Cage	Width	Depth	Height
10	1.2	2.0	

Price for total height of
12 ft. 4 in.

£5 5s. 0d.

At above this height all
various same.



9. 5.47

IMPROVED DINNER LIFT

To work from below suitable for Private Houses or small Hotels, will raise any load usually required, and can rise under a sideboard or dresser.

	wide	deep	high
Size of Case ..	24	16	30

Price, complete and ready for erection, exclusive of enclosures, for a total height of 14 feet.

1908. ed.

If above this height, 4% per foot



SINGLE DINNER LIFT.

Price of framework only, with balance weight and eye chain, 24" long	24
Weight, 1 lb. 10 oz.	20
Weight of eye chain, 24" long	20
Weight of eye chain, 30" long	25
Weight of eye chain, 36" long	30
Weight of eye chain, 42" long	35
Weight of eye chain, 48" long	40
Weight of eye chain, 54" long	45
Weight of eye chain, 60" long	50
Weight of eye chain, 66" long	55
Weight of eye chain, 72" long	60
Weight of eye chain, 78" long	65
Weight of eye chain, 84" long	70
Weight of eye chain, 90" long	75
Weight of eye chain, 96" long	80
Weight of eye chain, 102" long	85
Weight of eye chain, 108" long	90
Weight of eye chain, 114" long	95
Weight of eye chain, 120" long	100
Weight of eye chain, 126" long	105
Weight of eye chain, 132" long	110
Weight of eye chain, 138" long	115
Weight of eye chain, 144" long	120
Weight of eye chain, 150" long	125
Weight of eye chain, 156" long	130
Weight of eye chain, 162" long	135
Weight of eye chain, 168" long	140
Weight of eye chain, 174" long	145
Weight of eye chain, 180" long	150
Weight of eye chain, 186" long	155
Weight of eye chain, 192" long	160
Weight of eye chain, 198" long	165
Weight of eye chain, 204" long	170
Weight of eye chain, 210" long	175
Weight of eye chain, 216" long	180
Weight of eye chain, 222" long	185
Weight of eye chain, 228" long	190
Weight of eye chain, 234" long	195
Weight of eye chain, 240" long	200
Weight of eye chain, 246" long	205
Weight of eye chain, 252" long	210
Weight of eye chain, 258" long	215
Weight of eye chain, 264" long	220
Weight of eye chain, 270" long	225
Weight of eye chain, 276" long	230
Weight of eye chain, 282" long	235
Weight of eye chain, 288" long	240
Weight of eye chain, 294" long	245
Weight of eye chain, 300" long	250
Weight of eye chain, 306" long	255
Weight of eye chain, 312" long	260
Weight of eye chain, 318" long	265
Weight of eye chain, 324" long	270
Weight of eye chain, 330" long	275
Weight of eye chain, 336" long	280
Weight of eye chain, 342" long	285
Weight of eye chain, 348" long	290
Weight of eye chain, 354" long	295
Weight of eye chain, 360" long	300
Weight of eye chain, 366" long	305
Weight of eye chain, 372" long	310
Weight of eye chain, 378" long	315
Weight of eye chain, 384" long	320
Weight of eye chain, 390" long	325
Weight of eye chain, 396" long	330
Weight of eye chain, 402" long	335
Weight of eye chain, 408" long	340
Weight of eye chain, 414" long	345
Weight of eye chain, 420" long	350
Weight of eye chain, 426" long	355
Weight of eye chain, 432" long	360
Weight of eye chain, 438" long	365
Weight of eye chain, 444" long	370
Weight of eye chain, 450" long	375
Weight of eye chain, 456" long	380
Weight of eye chain, 462" long	385
Weight of eye chain, 468" long	390
Weight of eye chain, 474" long	395
Weight of eye chain, 480" long	400
Weight of eye chain, 486" long	405
Weight of eye chain, 492" long	410
Weight of eye chain, 498" long	415
Weight of eye chain, 504" long	420
Weight of eye chain, 510" long	425
Weight of eye chain, 516" long	430
Weight of eye chain, 522" long	435
Weight of eye chain, 528" long	440
Weight of eye chain, 534" long	445
Weight of eye chain, 540" long	450
Weight of eye chain, 546" long	455
Weight of eye chain, 552" long	460
Weight of eye chain, 558" long	465
Weight of eye chain, 564" long	470
Weight of eye chain, 570" long	475
Weight of eye chain, 576" long	480
Weight of eye chain, 582" long	485
Weight of eye chain, 588" long	490
Weight of eye chain, 594" long	495
Weight of eye chain, 600" long	500
Weight of eye chain, 606" long	505
Weight of eye chain, 612" long	510
Weight of eye chain, 618" long	515
Weight of eye chain, 624" long	520
Weight of eye chain, 630" long	525
Weight of eye chain, 636" long	530
Weight of eye chain, 642" long	535
Weight of eye chain, 648" long	540
Weight of eye chain, 654" long	545
Weight of eye chain, 660" long	550
Weight of eye chain, 666" long	555
Weight of eye chain, 672" long	560
Weight of eye chain, 678" long	565
Weight of eye chain, 684" long	570
Weight of eye chain, 690" long	575
Weight of eye chain, 696" long	580
Weight of eye chain, 702" long	585
Weight of eye chain, 708" long	590
Weight of eye chain, 714" long	595
Weight of eye chain, 720" long	600
Weight of eye chain, 726" long	605
Weight of eye chain, 732" long	610
Weight of eye chain, 738" long	615
Weight of eye chain, 744" long	620
Weight of eye chain, 750" long	625
Weight of eye chain, 756" long	



DOUBLE DINNER LIFT

[illegible]

IF SELF-SUSTAINING WITH PATENT AUTOMATIC BRAKE

No. F 547.
 framework only, no raise 3 cwt., 57 8 6
 TA, 100 1 cwt., 5 8 0
 3 r-c, 100 1 cwt., 5 8 0
 1 raise 3 cwt., 57 8 6
 100 1 cwt., 5 8 0

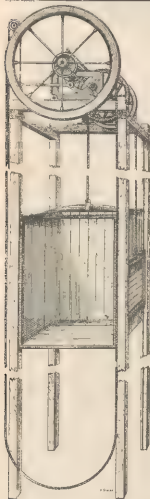
F 930.					
Inkwork only, to raise off the	89	1	d		
Dn. do. 5d the	9	2	o		
Price will vary on illustration.					
1 colour 5d	48	1	s		
10c. 10d	17	6			

DISCOUNTS AND QUOTATIONS FOR SPECIAL SIZES ON RECEIPT OF REQUIREMENTS.
FOR CASEMENTS AND SASHES SEE SECTION J. COMPLETE CATALOGUE SENT ON APPLICATION

GARDINER, SONS, & Co., Ltd.,

NELSON STREET & ALL SAINTS' IRON WORKS, BRISTOL.

*For particulars of design
See French Patent.*



HAND POWER WAREHOUSE AND LUGGAGE LIFTS.

F 548.

Price of Ironwork only including Brake and Balance Weight, exclusive of Cage Ironwork.

To rise	width	depth	height	£ s. d.
2 cwt., for cage	ft. in.	ft. in.	ft. in.	
4	2 6 X 2 3 X 3 6	..	11 0 0	
7	3 0 X 2 9 X 4 6	..	24 15 0	
10	3 6 X 3 0 X 5 0	..	17 10 0	
15	4 0 X 3 6 X 6 0	..	19 7 6	
20	4 6 X 4 0 X 6 0	..	22 15 0	
25	5 0 X 4 6 X 6 0	..	25 17 0	

Price, complete with Cage, Guides, Bearers, Ropes, etc., size of cages as above

To rise	width	depth	height	£ s. d.
2 cwt., for cage	ft. in.	ft. in.	ft. in.	
4	2 6 X 2 3 X 3 6	..	11 0 0	
7	3 0 X 2 9 X 4 6	..	24 15 0	
10	3 6 X 3 0 X 5 0	..	17 10 0	
15	4 0 X 3 6 X 6 0	..	19 7 6	
20	4 6 X 4 0 X 6 0	..	22 15 0	
25	5 0 X 4 6 X 6 0	..	25 17 0	

IF SELF-SUSTAINING WITH PATENT AUTOMATIC BRAKE.

F 549.

Price of Ironwork only, with Balance Weight

To rise	width	depth	height	£ s. d.
2 cwt., for cage	ft. in.	ft. in.	ft. in.	
4	2 6 X 2 3 X 3 6	..	11 0 0	
7	3 0 X 2 9 X 4 6	..	24 15 0	
10	3 6 X 3 0 X 5 0	..	17 10 0	
15	4 0 X 3 6 X 6 0	..	19 7 6	
20	4 6 X 4 0 X 6 0	..	22 15 0	
25	5 0 X 4 6 X 6 0	..	25 17 0	

Price, complete with Cage, Guides, Bearers, Ropes, etc., size of cages as above

To rise	width	depth	height	£ s. d.
2 cwt., for cage	ft. in.	ft. in.	ft. in.	
4	2 6 X 2 3 X 3 6	..	11 0 0	
7	3 0 X 2 9 X 4 6	..	24 15 0	
10	3 6 X 3 0 X 5 0	..	17 10 0	
15	4 0 X 3 6 X 6 0	..	19 7 6	
20	4 6 X 4 0 X 6 0	..	22 15 0	
25	5 0 X 4 6 X 6 0	..	25 17 0	

DISCOUNTS AND QUOTATIONS FOR SPECIAL SIZES ON RECEIPT OF REQUIREMENTS.

FOR CEMENTS AND SAFES SEE SECTION J.

COMPLETE CATALOGUE SENT ON APPLICATION.

GARDINER, SONS, & Co., Ltd.,

NELSON STREET & ALL SAINTS' IRON WORKS, BRISTOL.

To Architects, & all Persons
"Gardiners, Bristol"

Wrought Iron Insurance and Warehouse Doors.



F 189.

SLIDING DOOR

of $\frac{1}{2}$ -in. plate with top bar, bottom guide and hasps for padlock

ft.	in.	£	s.	d.
6	0	2	0	0
6	6	2	0	0
6	6	2	0	0

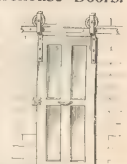


F 190

SLIDING DOOR

in 2 leaves of $\frac{1}{2}$ -in. plate with top bar, bottom guide and hasps for padlock

ft.	in.	ft.	in.	£	s.	d.
6	0	4	0	4	10	0
6	6	5	0	5	10	0
7	0	6	0	7	3	0



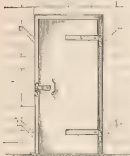
F 187

SLIDING DOOR

Panelled one side, with top bar and bottom guide, handle and hasp for padlock.

ft.	in.	ft.	in.	£	s.	d.
6	0	2	0	2	15	0
6	6	2	0	3	3	0
6	6	2	0	3	3	0

Box Handle for Sliding Doors to open Doors from either side, 3/- each extra



F 188

Wrought Iron Door of $\frac{1}{2}$ -in. Plate, Angle Iron Frame, with Hasp or Bolt.

2-ft. 6-in. high	£3 12s. 0d.
2-ft. 6-in. x 6-ft. 6-in. high,	£3 0s. 0d.



F 181.

Wrought Iron Door in 2 Leaves of $\frac{1}{2}$ -in. Plate, Angle Iron Frame with Bolts and Hasp for Padlock.

4-ft. 0-in. x 6-ft. 0-in. high ..	£3 0s. 0d.
5-ft. 0-in. x 6-ft. 6-in. ..	£3 11s. 0d.



F 182

Wrought Iron Door with Angle $\frac{1}{2}$ -in. Plate, 2 Panels, $\frac{1}{2}$ -in. Stile, $\frac{1}{2}$ -in. Lock, and Handle.

2-ft. 6-in. x 6-ft. 6-in. high,	£4 0s. 0d.
2-ft. 6-in. x 6-ft. 6-in. high,	£3 7s. 0d.

DISCOUNTS AND QUOTATIONS FOR SPECIAL SIZES ON RECEIPT OF REQUIREMENTS.

FOR CASEMENTS AND SASHES SEE SECTION J.

COMPLETE CATALOGUE SENT ON APPLICATION

GARDINER, SONS, & Co., Ltd.,

NELSON STREET & ALL SAINTS' IRON WORKS, BRISTOL.

Telegraphic Address
"Gardiners," Bristol

Wrought Iron Insurance and Warehouse Doors.



F 192.

DOOR AND FRAME.

Rebated Frame.	Partch 4-in.
Door.	Partch 4-in.
6 0x2 0	£4 5 0
6 0x2 6	4 10 0
6 0x3 0	5 7 0

Prices of Nos. F 192, 193, and 194. Hinged Doors, include Two Bolts or Strong Ordinary Dead Lock. Extra for best Two-lever Dead Lock, 7/-; Four-lever ditto, 10/-. F 192, F 193 are Panelled on front only.



F 193.

DOOR AND FRAME.

In 2 leaves. Rebated Frame.	Partch 4-in. thick.	Partch 4-in. thick.
Door.	Partch 4-in. thick.	Partch 4-in. thick.
6 0x4 0	£8 10 0	£9 6 0
6 0x4 6	9 5 0	10 5 0
6 0x5 0	10 5 0	11 11 0



F 194.

DOOR AND FRAME.

Solid Plate Mouldings on Surface and Rebated Frame.	Partch 4-in. thick.	Partch 4-in. thick.
Door.	Partch 4-in. thick.	Partch 4-in. thick.
6 0x2 0	£6 0 0	£6 10 0
6 0x2 6	6 15 0	7 10 0
6 0x3 0	7 10 0	8 15 0

Strong Room Doors, Ventilating Gates.



F 196.

STRONG ROOM DOOR.

With iron handle throwing two bolts, secured by two keyed powder-proof safe lock, protected by drill-proof plate. Front moulded as F 194 door.

Thickness of Plate.	Partch 4-in.	Partch 4-in.
6 0x2 0	£8 15 0	£9 12 0
6 0x2 6	9 8 0	10 10 0
6 0x3 0	10 0 0	11 10 0



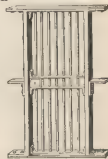
F 197.

STRONG ROOM DOOR.

Made with or without fire proof chamber. With brass handle throwing four bolts secured by two keyed powder-proof safe lock, protected by drill-proof plate. For fire proof safe lock as door as F 196 door.

With key changing size of lock, 14 1/2 in. long, 10 in. wide, 10 in. thick. If with fire proof chamber in addition to lock chamber.

Thickness of Plate.	Partch 4-in.	Partch 4-in.
6 0x2 0	£17 10 0	£18 10 0
6 0x2 6	18 0 0	19 10 0
6 0x3 0	19 0 0	20 10 0



F 199.

VENTILATING GATE FOR STRONG ROOM.

Fitted with best lever dead lock.

PRICES

Thickness of Plate.	Partch 4-in.	Partch 4-in.
6 0x2 0	£7 4 0	£7 10 0
6 0x2 6	7 10 0	8 0 0
6 0x3 0	8 0 0	9 0 0

FOR CASEMENTS AND SASHES SEE SECTION J.

COMPLETE CATALOGUE SENT ON APPLICATION.

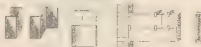
The Hygienic FIRE-PROOF BLOCK PARTITION.

As specified for and adopted at KENSINGTON PALACE; The THEATRE ROYAL, DRURY LANE, THE LYCEUM and other London Theatres; GUY'S HOSPITAL, BILLITER BUILDINGS, WHITEHALL PLACE, ST. BRIDES INSTITUTE, EIFFEL TOWER BLACKPOOL; and

THE LONDON SCHOOL BOARD.

$\frac{1}{5}$ th of the
Weight of $4\frac{1}{2}$ in.
Brick.

This absolutely
Fire-proof Wall, only
3 ins. thick,
can be obtained by a
combination of
the Hygienic Block
and Hygienic Cement,
and the Walls can
be painted at once,



A—Showing an external angle. B—Showing in π of a damp brick or stone wall. C—U fixing clamp. D—L fixing clamp. E—Clamp used for fixing direct on to steel joist.

Dimensions of Block, 5 ft. 5 ins. by 10 ins. by 2 ins., which can be cut with a saw to any length required.

2/6 per Square Yard. London Depôt: St. Pancras Station.

N. B.—Fixed work may be inspected in almost any part of London on application, or at the Company's Offices.

THE FIRE-PROOF CONSTRUCTION CO.,

TELEGRAPHIC ADDRESS, DEPLANMO, LONDON.

11, VICTORIA STREET, WESTMINSTER.

Also Sole Manufacturers of THE HYGIENIC FIREPROOF NON-EFFLORESCENT CEMENT; and of a DRY SETTING STUFF, a quick setting substitute for ordinary Lime Plastering, also Plaster of Paris, Keene's Cement &c. &c.

No Wood or Iron
supports required
in construction
Can be fixed to
any kind of Floor.
Concrete, Wood
or otherwise.

NO DELAY!
NO CRACKED WALLS!
SIMPLICITY
IN CONSTRUCTION!
SELF-SUPPORTING!
VERY MODERATE
COST!
NO NOISE OR DIRT
IN ERECTING!
SOUND RESISTING.

SEC. D—ENGINEERING, & IRON, STEEL, & FIREPROOF CONSTRUCTION, 179

HOBBS, HART, & Co., Ltd.,

MANUFACTURERS OF

"Seamless" Body Steel Safes to meet all Risks.

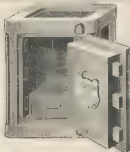
STRONG ROOM & PARTY WALL DOORS.

CONSTRUCTORS OF BULLION VAULT & MUNITMENT ROOMS.

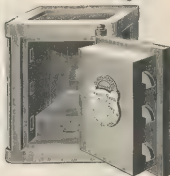
MANUFACTURERS OF THE

BANK OF ENGLAND TREASURY DOORS.

Steel Coffin Safe, for Branch Banks, Diamond Merchants, or other extra risks.



"SEAMLESS" BODY STEEL SAFE
FOR ORDINARY PURPOSES.



40 PAGE ILLUSTRATED LIST
FREE ON APPLICATION.

Patentees & Manufacturers of the
KEYED REBATED PARTY WALL DOORS
(SLIDING OR HANGING).

"SEAMLESS" BODY CLUTCH BOLT SAFE
FOR SPECIE OR SECURITIES.

The Steel Doors and Gates of this Company are of Superior Construction, and have acquired a high reputation. Where absolute security is needed, the "Keyed Rebated Party Wall Doors" which have been supplied with so much satisfaction to many leading Architects, will be found as near perfection as is practicable - it is a noteworthy fact to be remembered that in all recent fires more conformity to the Building Acts for Party Wall Doors has proved to be disastrous.

PATENT CONE VENTILATORS. For Strong Rooms or Vaults.

General Offices
and Works:

ARLINGTON STREET, ISLINGTON, LONDON, N.

Showrooms—76, CHEAPSIDE, LONDON, E.C.

SEE ALSO PAGE IN SEC. H.

HAYWARD-TYLER & Co.,

Hydraulic & Electrical Engineers,
90 & 92, WHITECROSS STREET,
LONDON, E.C.

Contractors to H. M. War Department, India Office,
Crown Agents for the Colonies, London County
Council, &c., &c.



0086



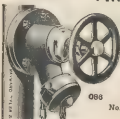
86c

FIRE FITTINGS, HYDRANTS, AND APPLIANCES,

For Private Houses, Public Buildings, Towns, &c.
As fitted up by them in numerous Mansions, Factories,
Hospitals &c., &c.
Estimates given for Complete Outfits

FIRE COCKS,

For Fixing in Vertical Main, with Cap, Screw,
and Chain.



0088



86

No. 0086 Strong Gun Metal Screw-down Fire Cock

Ordinary V Thread ..	2 1/2 in.	2 1/2 in.
Brigade Round Thread ..	5 1/2 in.	6 1/2 in.

No. 0086 Strong Gun Metal Screw-down Cock

Ordinary V Thread ..	2 1/2 in.	2 1/2 in.
Brigade Round Thread ..	5 1/2 in.	6 1/2 in.

No. 0086 Strong Gun Metal full way Cock

Ordinary V Thread ..	2 1/2 in.	2 1/2 in.
Brigade Round Thread ..	5 1/2 in.	6 1/2 in.

No. 0086 Strong Gun Metal Screw-down Cock

Ordinary V Thread ..	2 1/2 in.	2 1/2 in.
Brigade Round Thread ..	5 1/2 in.	6 1/2 in.

No. 86 Gun Metal Solid Bottom Fire Cock

Ordinary V Thread ..	2 1/2 in.	2 1/2 in.
Brigade Round Thread ..	5 1/2 in.	6 1/2 in.



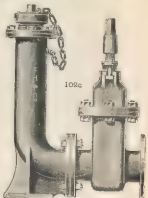
0080

HYDRANTS,

For Fixing in Ground Main

No. 100c Cast Iron Sluice Valve Hydrant
Price, 2 in., £2 10s., 2 1/2 in., £3, with double outlets
£3 12s. 6d.

No. 102b Cast Iron Screw-down Hydrant
2 in., 30/-, 2 1/2 in., 33/-



102c

Cast Iron Street or
Ground Boxes,
Of Various Patterns

COPPER STAND POSTS,
HOSE COUPLINGS,
BRANCH PIPES, ETC.

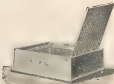


0080

0080 London Brigade
Fire Pump, 6 1/2 in.



102c



ELECTRICAL FITTINGS IN GREAT VARIETY.

182 SEC. D—ENGINEERING, & IRON, STEEL, & FIREPROOF CONSTRUCTION.

HOMAN & RODGERS'

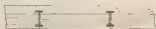
FIREPROOF FLOORS.



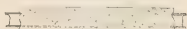
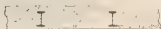
LONDON SCHOOL BOARD OFFICES, VICTORIA EMBANKMENT.

FIREPROOF FLOORS & CONSTRUCTIONAL IRON & STEEL WORK BY HOMAN & RODGERS.

WINDSOR CASTLE for H.M. the QUEEN, SANDRINGHAM HOUSE for H.R.H. the PRINCE OF WALES,
And upwards of 2,200 Buildings throughout the Kingdom.



HOMAN'S PATENT HOLLOW BRICK SYSTEM



HOMAN'S CONCRETE AND STEEL SYSTEM

*Girders and Constructional Iron and Steel Work, Wood Block Flooring,
Pure Seyssel Rock Asphalte, Quartz Finish.*

DRAWINGS AND ESTIMATES FREE ON RECEIPT OF PARTICULARS

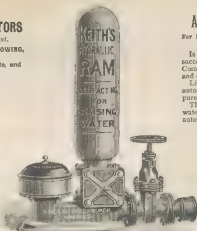
10, Marsden Street, Manchester. 17, Gracechurch Street, London, E.C.

Works: WEST GORTON, MANCHESTER, & RATCLIFFE, LONDON, E.

Telegraphic Address—"NAMOH, MANCHESTER." "HOMAN RODGERS, LONDON."

KEITH'S PATENT WATER MOTORS

With Automatic Valve Adjustment.
For POWER PURPOSES, ORGAN BLOWING,
&c.
Work on an Entirely New Principle, and
stand Unrivalled



KEITH'S PATENT Automatic Liquid Elevator,

For Raising BEER, STOUT, and other Liquids,
by PNEUMATIC PRESSURE.

Is the very Latest Development in the
successful application of the Automatic
Combination of Water and Air Pressure,
and entirely superseding Beer Pumps.

Liquors, practically direct from the wood,
automatically served in the very best and
purest condition.

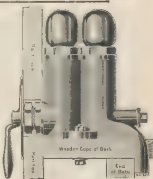
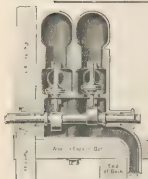
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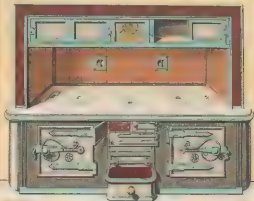
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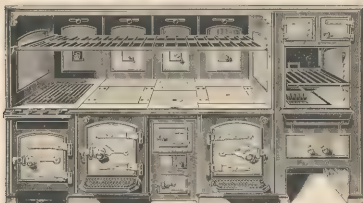
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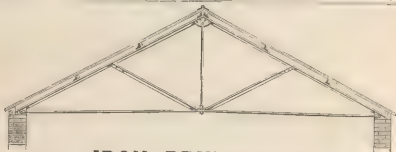


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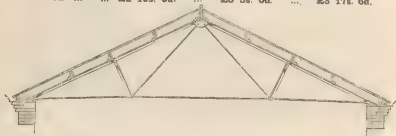
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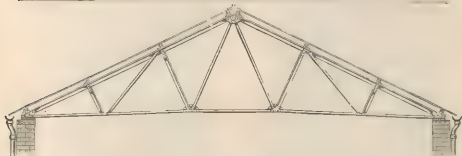


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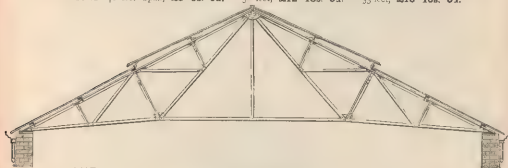
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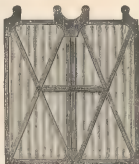
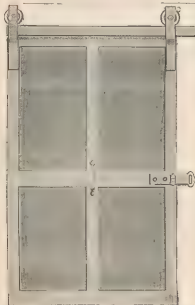


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"	7	6	3	6	7 0 0
"	8	0	4	0	8 0 0

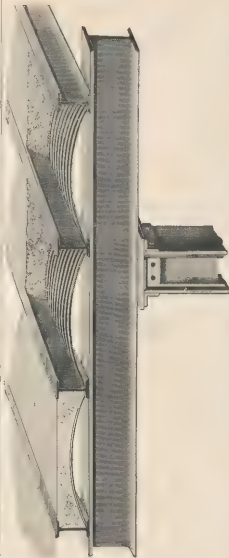
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16.16	20.16	25.16	30.16	35.16	40.16	45.16	50.16	55.16	60.16	65.16	70.16	75.16	80.16	85.16	90.16	95.16	100.16	105.16	110.16	115.16	120.16	125.16	130.16	135.16	140.16	145.16	150.16	155.16	160.16	165.16	170.16	175.16	180.16	185.16	190.16	195.16	200.16	205.16	210.16	215.16	220.16	225.16	230.16	235.16	240.16	245.16	250.16	255.16	260.16	265.16	270.16	275.16	280.16	285.16	290.16	295.16	300.16	305.16	310.16	315.16	320.16	325.16	330.16	335.16	340.16	345.16	350.16	355.16	360.16	365.16	370.16	375.16	380.16	385.16	390.16	395.16	400.16	405.16	410.16	415.16	420.16	425.16	430.16	435.16	440.16	445.16	450.16	455.16	460.16	465.16	470.16	475.16	480.16	485.16	490.16	495.16	500.16	505.16	510.16	515.16	520.16	525.16	530.16	535.16	540.16	545.16	550.16	555.16	560.16	565.16	570.16	575.16	580.16	585.16	590.16	595.16	600.16	605.16	610.16	615.16	620.16	625.16	630.16	635.16	640.16	645.16	650.16	655.16	660.16	665.16	670.16	675.16	680.16	685.16	690.16	695.16	700.16	705.16	710.16	715.16	720.16	725.16	730.16	735.16	740.16	745.16	750.16	755.16	760.16	765.16	770.16	775.16	780.16	785.16	790.16	795.16	800.16	805.16	810.16	815.16	820.16	825.16	830.16	835.16	840.16	845.16	850.16	855.16	860.16	865.16	870.16	875.16	880.16	885.16	890.16	895.16	900.16	905.16	910.16	915.16	920.16	925.16	930.16	935.16	940.16	945.16	950.16	955.16	960.16	965.16	970.16	975.16	980.16	985.16	990.16	995.16	1000.16

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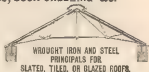
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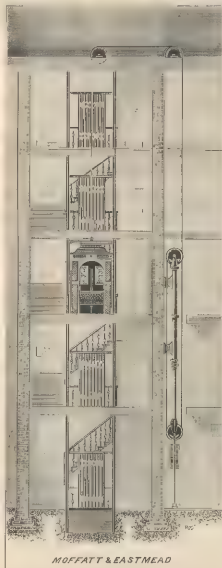
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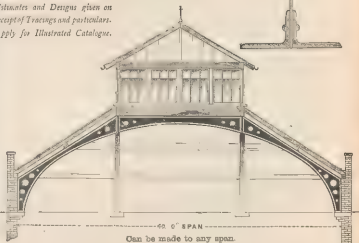
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## ENGLISH STEEL COLUMNS AND STANCHIONS.

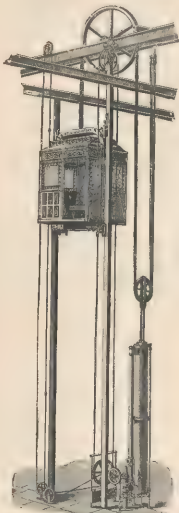
THESE SECTIONS CAN BE SUPPLIED FROM STOCK IN A FEW DAYS.

| SECTIONS.                                                                           | DIMENSIONS. |    | WEIGHT PER FOOT. | TABLE OF SAFE LOADS IN TONS FOR HEIGHTS IN FEET |       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|-------------------------------------------------------------------------------------|-------------|----|------------------|-------------------------------------------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--|
|                                                                                     | D           | W  |                  | 6 ft.                                           | 8 ft. | 10 ft. | 12 ft. | 14 ft. | 16 ft. | 18 ft. | 20 ft. | 22 ft. | 24 ft. | 26 ft. | 28 ft. | 30 ft. | 32 ft. | 34 ft. | 36 ft. |  |
|    | 6           | 5  | 25               | H2                                              | 11.7  | 16.0   | 19.8   | 19.8   | 7.2    | 11.7   | 14.1   |        |        |        |        |        |        |        |        |  |
|                                                                                     | 10          | 5  | 30               | H3                                              | 23.7  | 17.7   | 19.8   | 10.1   | 7.7    | 5.4    | 4.0    |        |        |        |        |        |        |        |        |  |
|                                                                                     | 8           | 6  | 29               | H4                                              | 26.2  | 24.6   | 19.8   | 16.8   | 12.2   | 1.8    | 7.1    | 6.0    | 5.0    | 4.0    |        |        |        |        |        |  |
|                                                                                     | 10          | 6  | 42               | H5                                              | 28.3  | 33.0   | 25.7   | 20.2   | 16.1   | 12.0   | 19.1   | 8.1    | 7.1    | 6.1    |        |        |        |        |        |  |
|                                                                                     | 12          | 6  | 45               | H6                                              | 44.2  | 34.4   | 27.0   | 21.4   | 17.0   | 13.8   | 11.9   | 9.1    | 7.1    | 6.2    |        |        |        |        |        |  |
|    | 6           | 7  | 46               | H8                                              | 31.7  | 11.8   | 26.8   | 20.8   | 21.7   | 20.1   | 17.2   | 11.0   |        |        |        |        |        |        |        |  |
|                                                                                     | 8           | 8  | 53               | H9                                              | 68.1  | 26.0   | 13.8   | 11.7   | 35.0   | 30.1   | 25.2   | 21.1   | 18.3   |        |        |        |        |        |        |  |
|                                                                                     | 10          | 9  | 60               | H10                                             | 48.2  | 24.5   | 23.8   | 14.0   | 44.1   | 41.1   | 35.2   | 31.1   | 26.8   | 24.1   | 20.5   |        |        |        |        |  |
|                                                                                     | 12          | 9  | 74               | H11                                             | 51.8  | 26.8   | 25.0   | 15.1   | 44.1   | 47.0   | 40.3   | 35.9   | 30.7   | 27.0   | 24.2   |        |        |        |        |  |
|                                                                                     | 14          | 12 | 82               | H12                                             | 112.2 | 117.8  | 103.0  | 89.4   | 81.4   | 72.1   | 56.3   | 60.8   | 60.8   | 64.5   | 59.7   | 55.2   | 51.5   |        |        |  |
|    | 12          | 14 | 91               | H13                                             | 115.1 | 111.7  | 127.1  | 114.1  | 101.7  | 90.0   | 85.2   | 77.5   | 69.3   | 62.5   | 57.0   | 52.1   | 47.6   | 44.0   | 40.0   |  |
|                                                                                     | 4           | 7  | 43               | S1                                              | 45.8  | 45.7   | 23.5   | 25.0   | 20.2   | 17.0   | 14.0   | 12.0   | 10.1   |        |        |        |        |        |        |  |
|                                                                                     | 7           | 9  | 51               | S2                                              | 63.0  | 53.2   | 54.9   | 51.2   | 40.1   | 45.6   | 37.7   | 33.0   | 29.0   | 24.7   | 22.1   |        |        |        |        |  |
|                                                                                     | 9           | 12 | 79               | S3                                              | 109.5 | 108.0  | 88.4   | 84.0   | 79.8   | 72.8   | 66.0   | 61.0   | 54.0   | 49.8   | 44.7   | 40.0   | 31.1   |        |        |  |
|                                                                                     | 11          | 14 | 94               | S4                                              | 137.7 | 125.1  | 110.1  | 111.2  | 104.2  | 95.2   | 87.2   | 79.7   | 73.4   | 66.4   | 60.8   | 55.1   | 47.7   | 41.8   |        |  |
|   | 13          | 16 | 103              | S5                                              |       |        |        |        | 158.4  | 143.1  | 133.1  | 118.1  | 107.1  | 96.1   | 86.2   | 77.1   | 73.4   | 67.5   | 62.1   |  |
|                                                                                     | 3           | 3  | 24               | R3                                              | 14.5  | 11.5   | 6.9    | 4.7    | 3.3    |        |        |        |        |        |        |        |        |        |        |  |
|                                                                                     | 4           | 4  | 42               | R5                                              | 49.4  | 29.5   | 21.0   | 15.2   | 11.9   | 8.8    | 8.8    |        |        |        |        |        |        |        |        |  |
|                                                                                     | 5           | 5  | 66               | R7                                              | 81.2  | 40.4   | 14.5   | 34.0   | 27.6   | 21.1   | 16.8   | 13.3   |        |        |        |        |        |        |        |  |
|                                                                                     | 6           | 6  | 95               | R9                                              | 132.1 | 105.6  | 84.1   | 67.0   | 52.7   | 42.2   | 31.2   | 25.0   | 20.0   | 14.1   |        |        |        |        |        |  |
|  | 6           | 6  | 35               | C2                                              | 40.1  | 30.0   | 23.4   | 17.8   | 13.7   | 10.7   |        |        |        |        |        |        |        |        |        |  |
|                                                                                     | 8           | 6  | 53               | C3                                              | 57.1  | 51.4   | 11.0   | 31.1   | 24.8   | 1.1    | 11.1   | 12.1   |        |        |        |        |        |        |        |  |
|                                                                                     | 10          | 6  | 60               | C4                                              | 70.1  | 62.2   | 43.2   | 36.1   | 31.7   | 1.1    | 11.1   | 35.1   |        |        |        |        |        |        |        |  |
|                                                                                     | 8           | 8  | 66               | C5                                              | 44.4  | 40.1   | 16.1   | 53.1   | 49.6   | 1.4    | 9.1    | 21.1   | 19.1   | 1.0    |        |        |        |        |        |  |
|                                                                                     | 10          | 8  | 66               | C13                                             |       |        |        |        | 81.1   | 68.1   | 46.1   | 37.1   | 41.1   | 36.1   |        |        |        |        |        |  |
|  | 10          | 10 | 66               | C9                                              |       |        |        |        | 72.9   | 64.1   | 51.7   | 60.8   | 44.5   | 39.2   | 35.0   |        |        |        |        |  |
|                                                                                     | 12          | 12 | 89               | C11                                             |       |        |        |        | 150.1  | 131.1  | 107.1  | 117.1  | 87.1   | 78.1   | 71.2   | 64.2   | 57.8   | 51.6   | 46.4   |  |
|                                                                                     | 14          | 14 | 114              | C15                                             |       |        |        |        | 172.1  | 155.1  | 141.1  | 130.1  | 118.1  | 107.1  | 98.1   | 90.2   | 81.7   | 74.1   | 67.5   |  |
|                                                                                     |             |    |                  |                                                 |       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |
|                                                                                     |             |    |                  |                                                 |       |        |        |        |        |        |        |        |        |        |        |        |        |        |        |  |

By using Steel Columns and Stanchions in place of Cast Iron, there is a saving in cost of about 5% strength for strength

By using Steel Columns and Stanchions in place of Cast Iron, there is a saving in cost of about 5% strength for strength

WEIGHTS PER FOOT RUN DO NOT INCLUDE CAPS AND BASES.



"OTIS" STANDARD HYDRAULIC ELEVATOR.

# "OTIS" Elevator Company, Ltd.,

4, QUEEN VICTORIA STREET,  
LONDON, E.C.

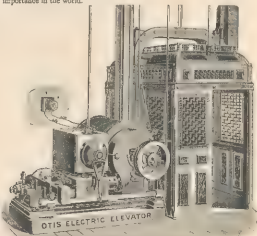
## "OTIS" ELEVATORS OR LIFTS.

HYDRAULIC, ELECTRIC, OR STEAM.

Only high class machinery is produced, giving the highest results in efficiency, economy in power, low cost of maintenance, uninterrupted working and safety, at the lowest price possible consistently with these qualities.

Some of the best known buildings to which these Elevators may be seen running are - Hotel Cecil, 26, The Hotel Victoria, 4, Savoy Hotel, 6, London and North Western Railway Company's Offices, Westminster, and Euston Hotel, Great Northern Railway Company's Hotels, London, Bradford, and Leeds; Midland Grand Hotel, St. Pancras; Glasgow Municipal Buildings; Manchester Town Hall, Brighton Town Hall, Bolton Town Hall, New Scotland Yard, 5.

The largest installation of Elevators in the world has now been constructed by us for the Glasgow Harbour Tunnel. Our Elevators are in every city of importance in the world.



THE "OTIS" ELECTRIC ELEVATOR.

Of which is here shown, is absolutely safe beyond possibility of accident. The motion is as perfect as that of our Hydraulic Elevator.

We recommend its adoption where electrical energy can be supplied with more advantage than hydraulic power. The machine consumes power only in proportion to the load lifted.

It is especially suited to private houses.

The motor is so constructed that it starts and stops with the winding machinery.

**SPECIAL PARTICULARS ON APPLICATION**



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**GLOBE ELEVATOR WORKS, STOCKTON-ON-TEES.**

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FOR ALL PURPOSES

## ELECTRIC AND HYDRAULIC LIFTS AND ELEVATORS.

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PULLEY BLOCKS.

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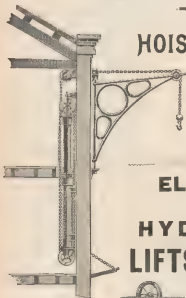
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THE "STANDARD" SNAKE HOIST.



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**BRIDGES, PIERS, ROOFS, COLUMNS, STANCHEONS,**

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SEWER WORK.

**FIREPROOF FLOORS,**

FIREPROOF DOORS,  
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OTHER INFORMATION FREE ON APPLICATION.

**GIRDERS**

Immediate Deliveries from Town Stock.

**CONTRACTORS TO HER MAJESTY'S GOVERNMENT.**

Arch. Com. M

## EDWARDS' FIRE-PROOF FLOOR.

EDWARDS' FLOOR is the result of a large number of experiments extending over many years, with a view to determine the simplest and safest method of constructing a fire-proof floor, and also to ascertain the relative merits of steel or iron plates or slabs of concrete floors, perfectly safe from collapse under the heaviest loads. The results of these experiments have been published in the "Engineering" and "Architectural" Journals, and also in the "Builder" and "Builder's Weekly". Messrs. Hyatt, Messrs. Hyatt, has ascertained almost the exact arrangements necessary to equalise the compressive strain upon the upper half and the tensile strain upon the bottom half of a concrete floor, as proved by Mr. Kirkaldy in his experiments.

**EDWARDS' Fire-proof Floor** consists of concrete in situ, in which steel tension rods are embedded—no joists being employed—so that the tensile strain resulting from sudden shocks or heavy loads.

This floor is only about four

inches in thickness, and is especially adapted for workmen's flats and dwellings, corridors, and rooms where the span does not exceed 12 feet, and where the passage of a certain amount of sound—common to all solid concrete floors—is no objection.

It affords no harbour for vermin, takes up the smallest possible space, and its strength increases with age. It is exceedingly economical, the cost being only from £3 per square upwards, left ready for surface finish, and from £4 per square if faced with narrow boards.

Unlike ordinary concrete plate or slab floors, which may break down without any warning, the limit of elasticity of

**EDWARDS' Floor** is identical with that of the tension rods, and if deflected  $\frac{1}{2}$  in. in 10 ft. it will resume its normal shape when the load is removed.

The following is a copy of a letter received from Mr. Harry W. Chubb relative to a floor 4 inches only in thickness:—

CHUBB'S SAFE WORKS, LONDON.

29th August, 1894.

Dear Sir,—In reply to your letter regarding your patent concrete and steel beams, then form a solid and safe floor over a pit at this factory, and carry a large portion of my scrap iron. We allow a weight of 11 to 20 tons to accumulate there at a time. The area is about 100 superficial feet. It is a little more than two years and a half ago that the beams were laid, and they have been, in constant use ever since, showing up to the present time no signs of deterioration.

I am, Yours truly, HARRY W. CHUBB.

## EDWARDS' FIRE-PROOF LINTELS.

These door and window lintels are a skilful combination of mild steel rods and Portland cement concrete of the very best character, in a way to obtain about eight times the normal strength of the same description and quality of concrete made in the usual manner.

Result of Experiments to ascertain the resistance to bending stress of the concrete specimens received from F. G. EDWARDS, Esq.

| TEST NO. | SECTION.                                                                          | DESCRIPTIONS, DIMENSIONS, AND ACTUAL WEIGHT.                                                                          | SPAN.       | STRESS, DEFLECTION, EFFECTS. |                   |                                                         |
|----------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------------|------------------------------|-------------------|---------------------------------------------------------|
|          |                                                                                   |                                                                                                                       |             | Pressure.                    | Deflection.       | Effects.                                                |
| 925      |  | G. Concrete with steel rods in underside, 1.58-in. diameter: 12.00-lbs. per foot run.                                 | 10-ft.      | 2,494                        | $\frac{1}{8}$ in. | Bottom cracked and top crushed.                         |
| 926      |  | J. Concrete with steel rods: 11.35 pounds per foot run.                                                               | 6-ft.       | 431                          | $\frac{1}{8}$ in. | Broke across.                                           |
| 928      |  | L. Concrete lintel, with rods curved up to the top of lintel at the ends, 1.58-in. diameter, 11.77-lbs. per foot run. | 3 ft. 6 in. | 5,104                        | 0.42              | Bottom cracked, destroyed, cracked also at end bearing. |

DAVID KIRKALDY.

EDWARDS' Lintels and Beams are manufactured of any dimensions, but these bars are kept in stock at the following prices:—  
 15 in. x 4 in. x 1 ft. 6 in. and 1 ft. 0 in. per foot run. 6 in. x 4 in. x 1 ft. 0 in., and 1 ft. 6 in. per foot run.  
 9 in. x 4 in. x 1 ft. 0 in. x 1 ft. 6 in. per foot run.

They can be sent by rail with no risk of breakage, and at cheap rates.

The 6 in. x 4 in. bars are strong enough for all ordinary purposes and they bind with two courses of bricks. The weight of the 4 in. x 4 in. bars is 11.35 lbs. per foot run, and the 6 in. x 4 in. bars 12.00 lbs. per foot run.

**POTTER & Co., LIMITED,**  
 39, VICTORIA STREET, LONDON, S.W.

# POTTER'S PATENT FIRE-PROOF FLOOR.

This Floor possesses many distinct advantages over every other system, the result of 25 years' practical experience in concrete construction, and of many experiments.

It is extremely light, weighing only 46 pounds per superficial foot.

The materials are arranged so as to obtain a maximum of strength with a minimum of materials. Mr. Baldwin Latham, in his report on the fall of concrete floors at Lambeth, says:—"Concrete floors between iron joists should be cambered or curved, so that the strains may be in compression and not in tension." As shown, with 3½ feet spans, concrete averaging 3 inches in thickness, the safe load is 12 cwt. per foot superficial.

The steel joists are better protected from the effects of fire than by any other system. The fire clay flange shield is EE, double air space MM, and plaster ceiling H, effectually safeguard the most important part of the steel joists—the bottom flange.



The chambers afford unequalled facilities for Ventilation, and are available for electric light, wires, pipes, &c. It occupies but little space; floor, floor casing, and ceiling together measure only 9½ inches in depth when finished, for 15 feet spans.

It is a perfect sanitary floor, affording no harbour for dust vermin, or insects, as there is no space whatever between the floor boards and the concrete—a marked improvement upon the ordinary system of resting small wood joists on the concrete for the floor-boards to be nailed to.

Experiments have proved that it will resist a fierce conflagration for hours.

The air chamber and concrete floor promote an even temperature in rooms, rendering them cooler in summer and warmer in winter than the ordinary wood joist floor.

The durability is that of the walls which support it.

The cost is from 2½ pence per square complete, ready for plastering, including the wood casing A.

Architects can be referred to floors laid in this way twelve years since.

A is a wood floor casing; B concrete; C corrugated iron permanent centre; EE fire clay flange shield; GG iron hangers; H ordinary plastered ceiling; K metal lathing; F iron lathing bar; MM air spaces.

The floor B is specially adapted for warehouses, maltsheds, breweries, &c., where the passage of a certain amount of sound is no serious objection, and no ceiling is required.

It is fire resisting to a very

The cost does not exceed that of a wood floor of good construction, as it can be executed from 2½ pence per square (exclusive of floor finish).

CC are steel joists, varying in depth and weight according to the span and load to be carried; B Portland cement concrete; D corrugated iron centres; EE fire clay flange shields.



great extent, the steel joists being everywhere thoroughly encased.

It occupies but little space, wood floor or cement finish, and concrete, only measuring 9½ in. deep in centre between joists.

## STRENGTH TEST OF POTTER'S AND EDWARDS' FLOORS.

The illustration below shows the enormous strength of POTTER'S FLOOR, and of EDWARDS' SLAB made on a similar principle to EDWARDS' FLOOR.

The former is arch-shaped; the concrete—resting on permanent corrugated iron centres—averages 3½ in. in thickness and is loaded with a dead weight equal to 4½ cwt. per superficial foot distributed. The joists are not pinned into walls, and have no abutment to receive any thrust from the arch-formed concrete. The concrete is made of Portland

Laid on slight steel joists they form an incombustible floor, well adapted for many purposes where lightness, speedy construction, durability, and economy of cost are essential.

The Floor and Slab, loaded as shown, can be seen any time in London.



cement, and clinker from rubbish destructor.

EDWARDS' SLAB as shown is also supporting 4 cwt. per superficial foot. It is 18 in. in thickness, and has nine small curved and corrugated steel tension rods embedded in it.

Slabs of this character are perfectly safe when subjected to sudden impact.

POTTER & Co., LIMITED,  
39, VICTORIA STREET. LONDON, S.W.

## PICKING'S PATENT TWIN ARCH.



C. G. PICKING, ENGINEER, Patentee & Sole Manufacturer.

### Interlocking Fire-Proof Flooring and Partitioning.

ADOPTED FOR

|                                                                          |                                                                                                      |
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| THE BANK OF SCOTLAND, BISHOPSGATE STREET,<br>LONDON, E.C.                | LONDON GENERAL OMNIBUS CO.'S STABLES & DEPOTS,<br>PUTNEY, HOLLOWAY, HOKTON, CRICKLEWOOD,<br>ETC, ETC |
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| TIMBER WAREHOUSES, CALEDONIAN ROAD, N.                                   |                                                                                                      |

### THE MAXIMUM OF STRENGTH WITH THE MINIMUM OF WEIGHT AND THICKNESS.

Of great importance is the fact that this floor does not need the extraneous aid of concrete to give it strength, and there is consequently no temptation to economise weight by the employment in the concrete of a combustible material like coke breeze, as is sometimes the case. The double-arched blocks possess in themselves the requisite strength, and, without the addition of concrete, will carry a safe load of 5 cwt. per square foot. They need only the covering of fire-resisting grout, supplied with them, to form a homogeneous floor. Easily fixed. No skill required. Can be put in position as work proceeds, or after joists are fixed. Forms an internal scaffolding. Resists action of water when heated. No trouble with expansion and contraction. All the advantages of arches without thrust. Extreme resistance to falling bodies. If deliberately broken by great force, piece cannot fall out. Every part interlocking. Every tube one solid piece. No loose pieces requiring concrete to keep them together. Holes easily cut after erection in any portion of floor, and it's cannot fall. Perfect Ventilation.

### PICKING'S PATENT INTERLOCKING FIREPROOF PARTITIONING.

Lightest on the Market. Thinnest yet invented. Strongest system known. Every piece interlocking. No skill required in fixing. No struts. No clip pieces. Fixed to any kind of floor. Sound-resisting. Self-supporting. No special cement required. Any angle formed without trouble. Weighs only 11 cwt. per square. Finished thickness only three inches.

All Goods Shaped with our Special Jagged Dovetail. Ready for Plaster immediately on Erection.

EVERY INFORMATION GIVEN ON APPLICATION. DETAILS, DRAWINGS QUANTITIES, ESTIMATES AND QUOTATIONS PREPARED PROMPTLY AND WILLINGLY.

C. G. PICKING, BOUNDS GREEN WORKS, NEW SOUTHGATE, LONDON, N.

# SAFES.

## GEORGE PRICE, Ltd.

*(The Original Firm.)*

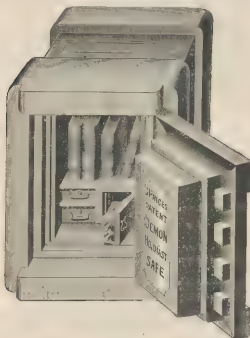
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*SOLE Manufacturers of the Celebrated Patent*

### **"CASE-HARDENED" BENT-STEEL SAFES**

As supplied to Her Majesty's Government.

Solid and  
Jointless  
Corners.



Bent by  
Powerful  
Hydraulic  
Machinery.

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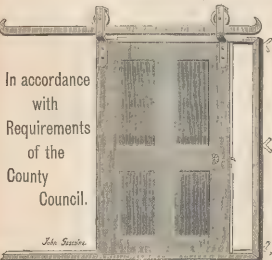
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208 SEC. D—ENGINEERING, & IRON, STEEL, & FIREPROOF CONSTRUCTION

# MACHINE-MADE Wrought-Iron Doors and Frames.

SLIDING.

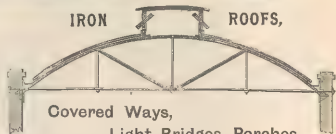
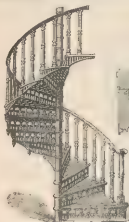
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In accordance  
with  
Requirements  
of the  
County  
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IRON

ROOFS,



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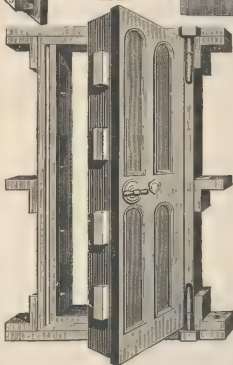


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Estimates  
for  
Every  
Description  
of  
Iron Doors.

Prize Award  
Melbourne,  
1888.



Estimates  
for  
Sliding Doors  
for  
Party Walls.

Prize Award,  
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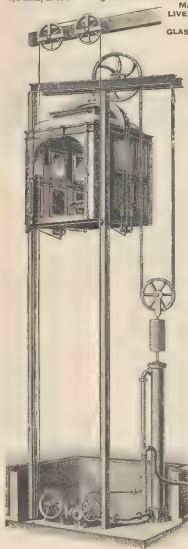
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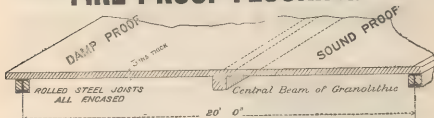
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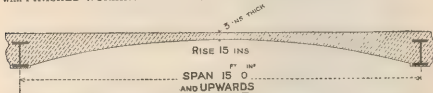
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**PANELLED FLOORS**, as above, made to span **LARGE INTERVALS**  
without **INTERMEDIATE STEEL JOISTS**.

*These Floors are perfectly  
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These Floors are suitable for **HOTELS, LARGE MANSIONS, and PUBLIC BUILDINGS** of all descriptions where Ceilings are required of an ornamental character. They can be laid with **FINISHED WORKING SURFACES**, or left for **Mosaics or Wood, &c.**



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**STUART'S FIRE-PROOF FLOORING** has been employed in large and important Buildings in the Kingdom.  
Over **2,500,000 super feet** constructed on the above Systems.

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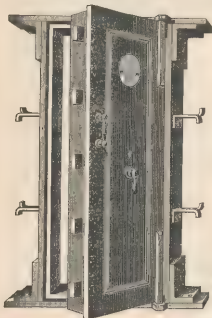
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| 6 ft. 0 in. x 3 ft. 0 in. | —                      | —  | —  | 18                    | 0  | 0  | 8                       | 0  | 0  |
| 6 ft. 6 in. x 2 ft. 6 in. | 13                     | 10 | 0  | 18                    | 0  | 0  | 8                       | 10 | 0  |
| 6 ft 6-in x 3-ft 0-in.    | —                      | —  | —  | 19                    | 10 | 0  | 9                       | 0  | 0  |
| 7 ft 0 in. x 3 ft. 0 in.  | 15                     | 15 | 0  | 22                    | 0  | 0  | 10                      | 0  | 0  |

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(Late A. ATTWOOD & CO., Late SALMON, BARNES & CO.,)

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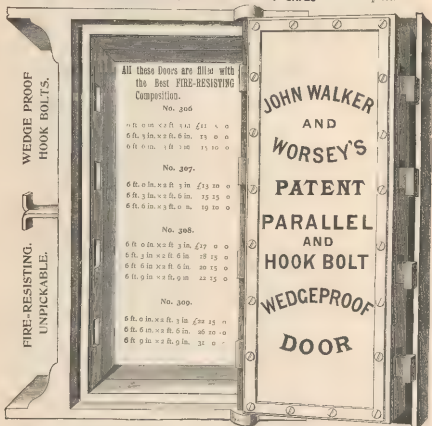
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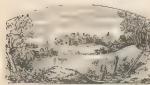
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To H. M.  
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FOR

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THIS Lift is operated by water from the high pressure mains, the chief feature of which is that it only uses the water in proportion to the load it raises. The economy effected is therefore most striking, because in hydraulic machinery, as a rule, there is no variation in the consumption, except by clumsy or awkward arrangement, and in the **Water-Saving Lift** the selection of the power is **Automatic**.

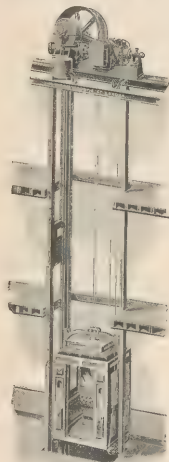
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Suitable for Passengers or Goods, and arranged with the Gear either below or above.

A most improved Lift, smooth & quiet, & very economical.

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IMPROVED

**Direct-Coupled Electric  
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By Special Appointment



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FOR PARTY WALLS AND  
STRONG ROOMS.



## COMPLETE PLANTS OF HYDRAULIC MACHINERY.

With Engines, Pumps, Accumulators, &c., shipped ready for Erection  
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| No | CLASS.            | LOAD.   | HEIGHT | SIZE OF BOX                          | PRICE<br>DELIVERED<br>LONDON. | PRICE IN<br>LONDON. |
|----|-------------------|---------|--------|--------------------------------------|-------------------------------|---------------------|
| 1  | Dinner Lift ..    | 56 lbs  | 20 ft. | aft. by 1ft. 6in. by 1ft. 6in.       | 13 10 0                       | 14 0 0              |
| 2  | Coal Lift ..      | 1 cwt.  | 20 ft. | aft. 6in. by 1ft. 6in. by 1ft. 6in.  | 18 10 0                       | 5 0 0               |
| 3  | Goods Lift ..     | 5 cwt.  | 20 ft. | 1ft. 6in. by 1ft. 6in. by 4 ft. 6in. | 27 10 0                       | 7 0 0               |
| 4  | Do ..             | 10 cwt. | 20 ft. | aft. by 1ft. 6in. by 4 ft. 6in.      | 35 0 0                        | 9 0 0               |
| 5  | Furniture Lift .. | 7 cwt.  | 20 ft. | 1ft. 6in. by 1ft. 6in. by 4 ft. 6in. | 45 0 0                        | 10 10 0             |



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The "PERFECT SAFETY" LIFT.

FOR PASSENGERS AND GOODS

THE WATER-SAVING HYDRAULIC MACHINERY.  
THE HYDRAULIC POWER WATER ENGINES.

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| LOAD.   | SIZE OF BOX.                            | HEIGHT. | PRICE.   | FIXED IN LONDON. |
|---------|-----------------------------------------|---------|----------|------------------|
| 2 cwt.  | 3 ft. 0 in. x 1 ft. 6 in. x 2 ft. 6 in. | 20 ft.  | £ 13 0 0 | £ 4 5 0          |
| 15 cwt. | 3 ft. 0 in. x 2 ft. 0 in. x 2 ft. 6 in. | 20 ft.  | 14 10 0  | 3 15 0           |
| 5 cwt.  | 3 ft. 6 in. x 3 ft. 6 in. x 4 ft. 6 in. | 30 ft.  | 27 0 0   | 3 10 0           |
| 10 cwt. | 4 ft. 0 in. x 3 ft. 6 in. x 4 ft. 6 in. | 30 ft.  | 12 10 0  | 1 10 0           |
| 20 lbs. | 1 ft. 6 in. x 1 ft. 3 in. x 2 ft. 6 in. | 20 ft.  | 10 0 0   | 2 15 0           |

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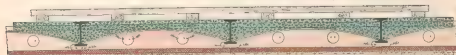
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# THE FIREPROOF FLOORS IN THE PARK HOSPITAL

... are being constructed by ...

**WILLIS & ASTLEY** to the extent of about **1 1/4 ACRES.**



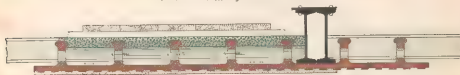
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Constructed with steel joists, concrete arches, and terra-cotta lints.

## THE WEIGHT IS CARRIED BY THE JOISTS AND CONCRETE ONLY,

The lints simply serving as a fire resisting covering protecting the metal and concrete, and forming a flat fire-clay ceiling, and a continuous air chamber through the floor.

The lints are formed with bulbed tops, which are embedded in the concrete, and are by that means firmly fixed and held.



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Trimmer joists, and in many cases main girders, can be protected by the lints in a manner that is quite impossible with any other system.

CONCRETE ARCHES SPRINGING FROM THE BOTTOM FLANGES OF THE JOISTS.

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**ADVANTAGES.**  
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SIZE 12x9x4 1/2

PRICE (AT WORKS)  
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 OR 12 BLOCKS

WITH ONE COAT OF PLASTER  
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# WHITFIELD'S FIRE RESISTING IRON DOORS.

## SIZES

(of Door Plates.)

Ft. In. Ft. In.

6 0 by 2 0

6 0 „ 2 6

6 0 „ 3 0

6 6 „ 2 9

*Other Sizes*

*at Proportionate Prices*

## PARTY WALL DOORS

FOR WAREHOUSES

FROM £3 10s. EACH.



## PRICES

£ s. d.

12 15 0

14 9 0

15 15 0

15 15 0

*Discounts*

*and Terms to Builders and*

*Architects on Application.*

## FIRE AND BURGLAR

RESISTING SAFES

FROM £5 5s. EACH.

Quality

No. 37.

## SPECIFICATION.

Door Plates in solid hung with strong WROUGHT IRON CENTRES into 3 in by 4 in Frame with 2½ in by 3 in Rebate Bar 2½ in FILLED Lock-case secured to Door Plate with Pins and Straps, Brass Lever Handle, throwing Four Bolts at Front, Three Back Dogs

Bolts secured by WHITFIELD'S PATENT seven-slide Lock, or Patent Solid Lever Block Lock (two keys), protected by Hardened Steel Plates.

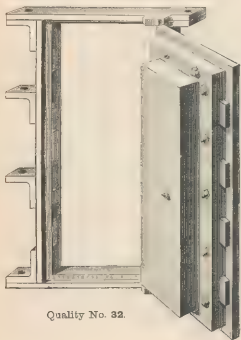
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# WHITFIELD'S WROUGHT IRON FIRE & THIEF-RESISTING DOORS.



Quality No. 32.

## \* SPECIFICATION. \*

Four Bolts thrown back and front by Brass Handle, and secured by "Whitfield's Patent Gunpowder Proof Unpickable Lock," protected by hardened Steel Plate.

\*\*\*\*\*

*Suitable for Solicitors' use, Butlers' Pantrys, and in every case where contents will be of a valuable nature.*

|                                |                   | Size of Door Plate .. |         | 6-ft. x 2-ft. | 6-ft. x 2 ft. 6in. | 6-ft. x 3-ft. |
|--------------------------------|-------------------|-----------------------|---------|---------------|--------------------|---------------|
|                                |                   |                       |         | £ s d         | £ s d              | £ s d         |
| Door Plate 3/4-in. ..          | Fire-proof ..     | Price                 | 17 15 6 | 19 6 0        | 20 12 0            |               |
|                                |                   | Weight                | 6 2 14  | 7 2 14        | 8 2 0              |               |
|                                | Not Fire-proof .. | Price                 | 15 12 0 | 17 0 0        | 18 10 0            |               |
|                                |                   | Weight                | 5 2 14  | 6 2 0         | 7 2 0              |               |
| Frame, 3/4-in. x 3/4-in. ..    | Fire-proof ..     | Price                 | 19 5 0  | 21 0 0        | 22 18 0            |               |
|                                |                   | Weight                | 7 1 14  | 8 2 0         | 9 3 0              |               |
|                                | Not Fire-proof .. | Price                 | 16 14 0 | 18 7 6        | 20 0 0             |               |
|                                |                   | Weight                | 6 1 0   | 7 1 0         | 8 1 0              |               |
| Rebate, 2 1/4-in. x 3/4-in. .. | Fire-proof ..     | Price                 | 22 18 0 | 24 0 0        | 25 18 0            |               |
|                                |                   | Weight                | 9 3 0   | 10 3 0        | 11 3 0             |               |
|                                | Not Fire-proof .. | Price                 | 20 0 0  | 22 0 0        | 23 10 0            |               |
|                                |                   | Weight                | 8 1 0   | 9 1 0         | 10 1 0             |               |

OXFORD STREET, BIRMINGHAM.



# WHITFIELD'S BANKER'S DOOR & LOBBY

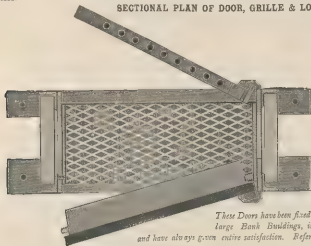
## WITH GRILLE COMPLETE.

FOR 18-INCH WALL.

Door Plate  $\frac{1}{2}$  in. thick, made up of two Best Wrought-iron Plates, with Best Hardened Iron and Steel Plate between (the steel in this Plate is actually rolled and welded into the iron, so that the steel portion can be hardened to be absolutely fireproof; but having the Soft Iron Plate at back it retains its toughness, and the steel cannot be broken or crimped away). The Door and Grille are hung with Wrought-iron Centres into J. n. Frames, and the Plate is formed by the sides and top and bottom of Lobby, which is  $\frac{1}{2}$  in. thick, with chequered side. The Angle Iron Framing which clips the wall, is  $2\frac{1}{2} \times 2\frac{1}{2} \times \frac{1}{2}$  in., and is securely fixed to the framework at both back and front.

The fastenings on Door are two sets of Whitfield's Patent Screw Bolts, secured by two Locks, namely, one in and one on Side. These Bolts and Locks are now in use in most of the Banks and large Jewellers' Establishments, and have in all cases given entire satisfaction; in fact, the Screw Bolt is recognised as the most secure fastening ever invented, as it makes even the best attempts at wedging absolutely useless.

SECTIONAL PLAN OF DOOR, GRILLE &amp; LOBBY.



*These Doors have been fixed in many of the large Bank Buildings, in the Country, and have always given entire satisfaction. References if required.*

## PRICES.

| Ft. | Inch. | Ft. | Inch. | £ | s.  | d. | Ft. | Inch. | Ft. | Inch. | £ | s. | d. |     |    |   |   |
|-----|-------|-----|-------|---|-----|----|-----|-------|-----|-------|---|----|----|-----|----|---|---|
| 6   | 0     | ×   | 2     | 6 | ... | 75 | 0   | 0     | 6   | 0     | × | 3  | 0  | ... | 80 | 0 | 0 |
| 6   | 6     | ×   | 2     | 6 | ... | 78 | 0   | 0     | 6   | 6     | × | 3  | 0  | ... | 83 | 0 | 0 |

Above are the sizes of Door Plates.

Other sizes at approximate prices.

**F. WHITFIELD AND CO.,**  
 MANUFACTURERS OF WROUGHT IRON SAFES AND DOORS,  
 \* OXFORD STREET, BIRMINGHAM. \*  
 London Office: 20, CHEAPSIDE, LONDON, E.C.



**GEORGE WRIGHT & CO.,**  
155, QUEEN VICTORIA STREET, LONDON, E.C.  
**STEAM OR GAS COOKING APPARATUS.**  
Catalogues Free



# WATER SUPPLY.

INDEPENDENT, ECONOMICAL & EFFECTIVE.

**DRIVEN TUBE WELLS.**—A number can be spread over a large area and coupled together with horizontal mains and connected to one Pump.

**ARTESIAN BORED TUBE WELLS** where the Springs are situated some distance below surface, or in hard strata. Tube Wells can be bored or driven from the bottom of existing Dug Wells where the supply is contaminated. Geological opinions furnished.

**PUMPS** of all descriptions. Single and double action. Improved deep well pumps.

**WINDMILLS.**—"The Halladay" Sensitive and Storm-resisting. In all sizes from 10 ft. diameter to 60 ft. Direct acting for pumping, or geared for driving machinery.

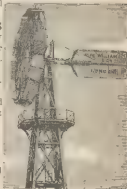
WRITE OR WIRE—

**ALFRED WILLIAMS & Co.,**  
HYDRAULIC ENGINEERS, AND

Contractors to H.M. Government.

39, Great Eastern Street, London, E.C.

TELEGRAMS, "VENTILIA, LONDON." Five minutes walk from Liverpool St. Station G.E.R.



This illustration shows the Windmill at roof, with Sails furled; allowing the wind to pass freely through the wheel.

*Architects would oblige by mentioning the source of their information when communicating with the Firms represented in "The Compendium."*

**H. YOUNG & CO.**  
**ENGINEERS & IRON FOUNDERS.**  
 Eccleston Iron Works, Pimlico S.W.  
 TELEPHONE NO. 3067.

*Bronze Statue & Art Founders*

Roller Joists Plates  
 Angles Tees & of usual Sections  
 KEPT IN STOCK

**BATHS, WASH-HOUSES & HOT-WATER ENGINEERS.**  
 ROOFS, BRIDGES, RIVETTED GIRDERS, ROLLED JOISTS, COLUMNS, STANCHIONS, IRON DOORS,  
 TANKS, LIFTS, WATER MAINS AND CONSTRUCTING ALL IRON WORK FOR ALL PURPOSES.



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*Architects would oblige by mentioning the source of their information when communicating with the Firms represented in "The Compendium."*

# **LUCAS' "RELIABLE"**

## **Sliding and Folding Swivel Partitions.**

(PROVISIONALLY PROTECTED.)

---

### **IMPORTANT IMPROVEMENTS.**

---

CONVERTING ONE ROOM INTO TWO OR MORE  
**EASILY, QUICKLY, AND WITH CERTAINTY.**

---

SUITABLE FOR  
Schools, Libraries, Hotels, Mansions, Public Halls, &c.  
A PERFECT VENTILATION OBTAINED WITHOUT DRAWING PARTITION TO WALL.

---

**MUCH LESS WEAR ON WORKING PARTS.**  
MORE EASILY AND QUICKLY OPENED AND CLOSED.  
MADE TO RUN ON TOP OR BOTTOM ROLLERS.  
MADE WITH WOOD OR GLAZED PANELS.

---

**CANNOT BE PULLED OUT OF SQUARE,**  
And can be relied upon for  
**PERMANENT SATISFACTION.**  
THE SIMPLEST AND BEST.

---

*For Estimates and Particulars apply to*

**J. E. LUCAS,**

Engineer and Patentee,  
SANDBOURNE ROAD, **BROCKLEY**, LONDON, S.E.

# BIRMINGHAM BLIND Co.,

UNIVERSE WORKS, 43, DERITEND, BIRMINGHAM,

MANUFACTURERS OF

OUTSIDE AND INSIDE

## WINDOW BLINDS

OF EVERY KIND.

WOOD AND BRASS CORNICE  
POLES.  
CORNICES.



FLORENTINE BLIND



ORIENTAL BLIND



SPANISH BLIND



SIMPLEX BLIND

Estimates  
given for fitting  
throughout Hotels,  
Public Buildings, Schools,  
Private Residences, Shops, &c., with  
Outside and Inside Blinds.

INSTRUCTIONS TAKEN PERSONALLY.

DISTANCE IMMATERIAL.

ARCHITECTS' INSTRUCTIONS CAREFULLY CARRIED OUT.

FULL PRICE LIST ON APPLICATION.



OUTSIDE SELF-ACTING SPRING SHOP BLIND.

### Inside Venetian Blinds

- 11 Art Holland
- 11 Embroidered
- 11 Duchesse Lace
- 11 Festoon
- 11 Insertion
- 11 Wire
- 11 Cane
- 11 Stained Glass
- 11 Shop
- 11 Opaque for Lecture Rooms  
of Institutes, &c., &c.

SAMPLES ON APPLICATION.

### LISTS OF SELF-ACTING SPRING SHOP BLINDS

- 11 Spanish
- 11 Oriental
- 11 Florentine
- 11 Helioscène
- 11 Simplex
- 11 Improved Spanish
- 11 Venetian
- 11 Conservatory

Every known kind of Blinds made and fixed.

# THE BENNET FURNISHING COMPANY,

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CHURCH, SCHOOL, AND HALL FURNITURE,  
SCHOOL DESKS, &c.

The BENNET DUAL DESK, adopted by all the leading School Boards.  
Over 20,000 supplied by us to the School Board for London alone.

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YORKSHIRE COLLEGE.  
FREE CHURCH TRAINING COLLEGE,  
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S. VINCENT'S COLLEGE, DUBLIN.  
CLONGOWES COLLEGE, SALINES,  
IRELAND.  
HIGH SCHOOL, GLASGOW.  
" " DUNDEE.  
" " DUNFERMLINE.  
" " DALKETH.  
S. JOHN'S FOUNDATION SCHOOLS,  
LEATHERHEAD, SURREY.  
EDINBURGH ACADEMY.  
BIRKENHEAD INSTITUTE.  
LONDON COUNTY COUNCIL SCHOOLS.  
CROSSNESS, and others.

No. 47.

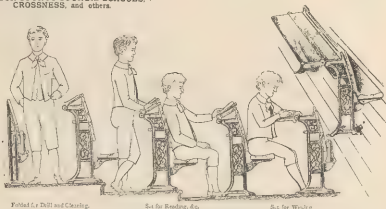
## BENNET DUAL DESK.

| For Scholars.  | Oak.  | Oak.  |
|----------------|-------|-------|
| VI. & VII.     | 17/10 | 18/10 |
| IV. & V.       | 17/-  | 18/-  |
| II. & III.     | 16/6  | 17/3  |
| I.             | 15/4  | 16/4  |
| Infant & N. G. | 13/4  | 14/-  |

*Adopted by the following School Boards—*

LONDON (Ten years' Contract).  
GLASGOW.  
LIVERPOOL. WEST HAM  
EDINBURGH. MANCHESTER.  
HALIFAX. WOLVERHAMPTON.  
GATESHEAD. NOTTINGHAM.  
OLDHAM. ABERDEEN.  
WALSALL. CARDIFF.  
HANLEY. BRIGHTON.  
BURNLEY.

And others.



### POINTS OF SUPERIORITY.

1. They are constructed out of the best quality of Oak or Ohlm—thoroughly seasoned and free from all imperfections.
2. The iron and wood are dovetailed together, so that the Desk does not depend upon screws for its stability.
3. There is no other Desk made, either dual or otherwise, that will accommodate so many scholars in a given space, and give so much freedom to both teacher and pupil.
4. It secures cleanliness, for when the Desk and Seat are

folded, sweeping becomes a matter of nearly as much ease as an open room.

3. The Back and Seat are curved and shaped so as to give proper support to the body, and the inclination of the papers to maintain an upright and healthy position.

There is no machinery to get out of order and it is impossible to push the fingers in sliding of either Desk or Seat.

Illustrated Catalogue with Price List and Discounts sent on Application.

36, Tennant St., Glasgow. 47, Glengall Road, Old Kent Road, London.



# THE BENNET FURNISHING COMPANY,

Manufacturers of  
CHURCH, SCHOOL, AND HALL FURNITURE.



No. 44.—BENET DESK. LONDON SCHOOL BOARD PATTERNS.  
Oak, 16, 10. Orham, 16/ per Dual Desk.



No. 27. LOCKER DESK.  
Orham, 25/-; Oak, 26/8.



No. 29.  
Orham, 16, 6. Oak, 20/-.



No. 31.  
Seat and Desk Open.



No. 31. Closed.  
Orham, 21/-; Oak, 22/



No. 57.  
Orham, 4. Oak, 4 6 per ft run



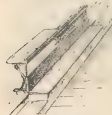
Folded down Set as Table  
No. 63 Convertible Orham, 4/8



Set for Writing  
Oak 5, 2 per ft



No. 10. Convertible.  
Orham, 4, 3. Oak, 4, 10 per ft.



No. 11. Infant Gallery.  
Orham, 2 10 Oak, 3, 1 per ft run



Folding Desk.

No. 85. Infant Dual  
Orham 14 2 Oak 14 10

No. 64 Infant Dual.  
Orham 12 8 Oak 13 8

No. 67. Infant Dual  
Orham 12 8 Oak 13/-

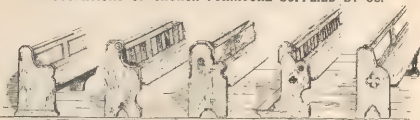
Illustrated Catalogue with Price List and Discount sent on Application.

36, Tennant St., Glasgow. 47, Glengall Road, Old Kent Road, London.

# THE BENNET FURNISHING COMPANY, Manufacturers of CHURCH, SCHOOL, & HALL FURNITURE, CHURCH BENCHES, &c.

OUR facilities enable us to supply the class of work in Oak and Oak-veneer at less than is usually paid for Church Seating, &c., in inferior woods. We keep in Stock, at all times, not less than 200,000 feet of timber, cut into different thicknesses, so as to insure that only thoroughly dry material is used in our work.  
The average prices for Benches here shown would be 4/6 in Oak, and 5/- in Oak, per foot run.

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HOLLOWAY, N.

ENGLISH CHURCH,  
LISBON.

WES. METH. CHURCH,  
NORTH SHIELDS.

SCARISBRICK R.C. CHURCH,  
Messrs. Phipps &  
Purvis, Architects.

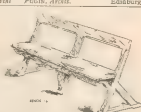
LASSWAD CHURCH,  
H. BLAIR, Archt.,  
Edinburgh.



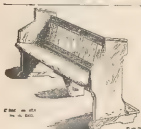
B. BAPTIST CHURCH,  
No. 10, St. John's.



C. NORTH CHURCH,  
No. 10, St. John's.



D. BAPTIST CHURCH,  
No. 10, St. John's.



E. BAPTIST CHURCH,  
No. 10, St. John's.



F. BAPTIST CHURCH,  
No. 10, St. John's.



G. BAPTIST CHURCH,  
No. 10, St. John's.



H. BAPTIST CHURCH,  
No. 10, St. John's.

Illustrated Catalogue with Price List and Discounts sent on Application.

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# THE BENNET FURNISHING COMPANY,

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With our Hall Seating, we have, so far as is possible, dispensed with Cast Iron for Standards, using straight grained Oak in all cases instead, so that the Seating is thereby not only strengthened, but is more easily handled.

Every care is taken to have all our seats constructed the proper shape and dimensions, to ensure comfort.



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Orham ... 2/4  
Oak ... 2/7

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Orham ... 2/3  
Oak ... 2/6

No. 22.  
Orham ... 2/8  
Oak ... 3/-

No. 5.  
Orham ... 2/2  
Oak ... 2/5

No. 38.  
Reversible Back.  
Orham ... 2/9  
Oak ... 3/4

Above prices per foot run.

## THEATRE SEATING.



No. 133.

No. 135.

No. 135.

No. 128.

All these have Folding Seats and Tilting Backs.

## CHAIRS.



No. 0.  
2/2

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2/4

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Church &amp; School



Bell Founder.

HIGHEST AWARD,  
INTERNATIONAL EXHIBITION,  
ADELAIDE,  
1887.

PEALS & SINGLE BELLS.

HIGHEST AWARD  
INTERNATIONAL EXHIBITION,  
MELBOURNE,  
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NEW PEALS HUNG ON THE MOST APPROVED PRINCIPLES.  
OLD BELLS REHUNG. CRACKED BELLS RECAST.

ESTIMATES SUPPLIED ON APPLICATION AND EXPERIENCED CHANGE RINGERS SENT TO REPORT ON  
REPAIRS AND ALTERATIONS, OR THE INSTALLATION OF NEW RINGS  
HIGHEST TESTIMONIALS RECEIVED FROM CLERGYMEN & OTHERS IN ALL PARTS OF THE COUNTRY

MUSICAL & HAND BELLERS.

ALSO MANUFACTURER OF

ENGINEERS' AND PLUMBERS' COCKS AND FITTINGS,  
HIGH PRESSURE WATER COCKS,

COCKS FOR WINE, BEER, AND ALL OTHER PURPOSES.

Established 1784.

TRADE MARK, "FIDDIAN."

## "CHARLES CARR,"

### BELL AND BRASS FOUNDERS,

Woodland Works, Smethwick.

Contractors to Her Majesty's Royal Ordnance Stores.

7 GOLD MEDALS AND 1 BRONZE MEDAL

QUARTER BELLS.

BELLS OF EVERY SIZE AND DESCRIPTION.

CLOCK BELLS.

LIGHTHOUSE BELLS

CHURCH BELLS.

SCHOOL BELLS.

All kinds of Bells up to any  
Weight.



Bronze Tomb Bells, and all kinds of Star Trends for Bells.  
RE HANGING AND RESTORING OF BELLS AND FITTINGS IN ALL BRANCHES

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# JOHN BRYDEN & SONS, MANUFACTURERS OF ALL KINDS OF WINDOW BLINDS

ESTABLISHED 1809.

## Bellhanging Engineers.

**MECHANICAL BELLHANGING**, of all kinds, and wire of strong and superior quality, constructed on improved lever and other pulls. The most serviceable system for dwelling houses.

**ELECTRIC BELLHANGING**, with vibrating glass or ivory indicators. The most suitable system for hotels, clubs, and other large buildings.

**TELEPHONES**—of the best makers, based on the LINCOLN SYSTEM, for all Houses, Mansions, Offices, Clubs, &c. This system enables different departments to converse simultaneously without interfering with one another, and no central switch board is required.

**SPEAKING TUBES**, of Copper, Tin or Brass Tubing with whistles, or air signal bell.

**HOISTS—MECHANICAL**, for dinner service with single or double elevators, also for luggage, coals, &c. All machinery, gables, &c., of the best construction.

ESTIMATES FREE.

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**London—90, GLOUCESTER ROAD, QUEEN'S GATE, S.W.**

Established 1870.

## JAMES BLEZARD & SONS, GUY FOUNDRY, PADIHAM, LANC.

MAKERS OF EVERY DESCRIPTION OF

FURNITURE for DAY & SUNDAY SCHOOLS & MISSION HALLS,  
Including the "TRUE" DESK, Reversible,

which, with the Patent Standard Wheels, is the best and most convenient Desk of its class in use. It can be altered in a few seconds to form a Table or Seat with back, and is perfectly secure in any position. Also

KINDERGARTEN, MASTERS' PEDESTAL, PUPIL TEACHERS DESKS, BLACKBOARDS, EASELS,  
SEATS WITH BACKS, &c. Catalogues & Estimates on Application.

## A. H. BUNNETT & Co.

(Son of the Late Joseph Bunnett, of New Cross, Original Inventor and Patentee)

MANUFACTURERS OF

Revolving Iron and Wood Shutters,

85, FLORENCE ROAD, AND CROWN WORKS, TANNER'S HILL, NEW CROSS, S.E.

IRON GRILLS, IRON DOORS, LIFTS AND HOISTS, &c.

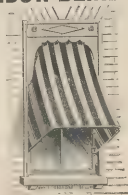
Spring Roller Blinds of every description.

SHUTTERS REPAIRED AND PAINTED BY CONTRACT.

BRASS PLATES, BRASS SHOP FRONTS, &c.



THE "TRUE" DESK REVERSIBLE  
WITH PATENT STANDARD WHEELS



# GEORGE BRADY,

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## MANUFACTURER OF REVOLVING SHUTTERS

*Suitable for Shop Fronts. Dividing Class Rooms, Warehouses, Doorways, &c.,  
in Iron, Steel or Wood.*

### DINNER AND WAREHOUSE HOISTS.

INSIDE & OUTSIDE BLINDS of every Description, for Hotels, Mansions, &c.  
PORTABLE AND REVOLVING GUARDS OF ALL KINDS.

*Estimates on Application.*

PATENT FOLDING PARTITIONS (BRADY AND PEACE'S PATENT) IN IRON AND WOOD.

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BELLHANGING.  
Mechanical. Electric.  
Pneumatic.

GASFITTING.  
Main and Service Pipes  
Gasaliers  
Brackets and Pillars

ELECTRIC LIGHTING.  
Installations  
Cables, Branch Wires, etc  
Electroliers.

WINDOW BLINDS.  
Venetian and Cloth Blinds.  
Wiregauze Screens.  
Outside Shades.



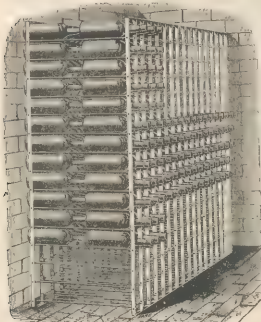
SIGNALLING.  
Telephones. Speaking Tubes.  
Fire Alarms.

HOISTS.  
Luggage Hoists.  
Dinner Lifts  
Pneumatic Despatches.

BRASSFOUNDING.  
Brass Plates and Engraving  
Curtain and Stair Rods  
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SMITH WORK.  
Gates and Grills  
Wrought Iron Doors  
Gas and Electric Fittings.

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SLIDER & N. for Private Cellars, Offices, &c.

FOR PRIVATE HOUSES,  
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CELLARS FITTED COMPLETE  
in all parts of the Kingdom.

PLANS AND ESTIMATES FREE.

THE WINE CELLARS

OF THE  
GRAND HOTEL,  
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THE HOTEL METROPOLITAN,  
BRIGHTON,

AND  
MANY MANSIONS & HOTELS.  
IN TOWN AND COUNTRY, HAVE BEEN  
FITTED THROUGHOUT BY

**W. & J. BURROW.**

**W. & J. BURROW,**  
Iron Wine Bin Manufacturers & Bar Fitters,

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DESCRIPTIVE CATALOGUES with 800 ILLUSTRATIONS of IRON WINE BINS CELLAR FITTINGS  
MACHINES, &c., may be had free upon application

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School Furniture, Church Seat, and Joinery Works.

SOLE MAKERS BIRMINGHAM SCHOOL BOARD -THREE YEARS CONTRACT  
OVER 1,600 SCHOOLS SUPPLIED

OVER 1,600 SCHOOLS SUPPLIED



144. *var. n. 24 x 36 in. w. 1/2 in. and 1/2 in. deep with 1/2 in. of 1/2 in. feet.*  
Oak, Birch, or Pitch Pine Dials, 24- to 36- in. each. Long Lengths, 4- to 5- per foot.

No. 110, Field Top Folding Seat      1st      2nd      3rd      4th      5th      6th      7th      8th      9th      10th



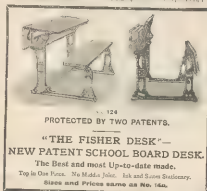
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Aug. 1864. Vol. 139



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 1000 4  $\rightarrow$  500 1000 1000

123 *Journal of Management Education* 36(1) $\Delta_{\text{H}} = 141, \Delta_{\text{L}} = 116$ 

No. 122.



No. 30. Newsable Back. 4/6 to 5/6 per foot.



No. 34 and 35 to 37 are lost.





**WILLIAM FISHER & SON, WEST BROMWICH, STAFFS.**

School Furniture, Church Seat, and Joinery Works.

SOLE MAKERS BIRMINGHAM SCHOOL BOARD—THREE YEARS CONTRACT.

OVER 1,500 SCHOOLS SUPPLIED

**INFANTS' DESKS.**

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No 112A. 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1182, 1188, 1194, 1200, 1206, 1212, 1218, 1224, 1230, 1236, 1242, 1248, 1254, 1260, 1266, 1272, 1278, 1284, 1290, 1296, 1302, 1308, 1314, 1320, 1326, 1332, 1338, 1344, 1350, 1356, 1362, 1368, 1374, 1380, 1386, 1392, 1398, 1404, 1410, 1416, 1422, 1428, 1434, 1440, 1446, 1452, 1458, 1464, 1470, 1476, 1482, 1488, 1494, 1500, 1506, 1512, 1518, 1524, 1530, 1536, 1542, 1548, 1554, 1560, 1566, 1572, 1578, 1584, 1590, 1596, 1602, 1608, 1614, 1620, 1626, 1632, 1638, 1644, 1650, 1656, 1662, 1668, 1674, 1680, 1686, 1692, 1698, 1704, 1710, 1716, 1722, 1728, 1734, 1740, 1746, 1752, 1758, 1764, 1770, 1776, 1782, 1788, 1794, 1800, 1806, 1812, 1818, 1824, 1830, 1836, 1842, 1848, 1854, 1860, 1866, 1872, 1878, 1884, 1890, 1896, 1902, 1908, 1914, 1920, 1926, 1932, 1938, 1944, 1950, 1956, 1962, 1968, 1974, 1980, 1986, 1992, 1998, 2004, 2010, 2016, 2022, 2028, 2034, 2040, 2046, 2052, 2058, 2064, 2070, 2076, 2082, 2088, 2094, 2100, 2106, 2112, 2118, 2124, 2130, 2136, 2142, 2148, 2154, 2160, 2166, 2172, 2178, 2184, 2190, 2196, 2202, 2208, 2214, 2220, 2226, 2232, 2238, 2244, 2250, 2256, 2262, 2268, 2274, 2280, 2286, 2292, 2298, 2304, 2310, 2316, 2322, 2328, 2334, 2340, 2346, 2352, 2358, 2364, 2370, 2376, 2382, 2388, 2394, 2400, 2406, 2412, 2418, 2424, 2430, 2436, 2442, 2448, 2454, 2460, 2466, 2472, 2478, 2484, 2490, 2496, 2502, 2508, 2514, 2520, 2526, 2532, 2538, 2544, 2550, 2556, 2562, 2568, 2574, 2580, 2586, 2592, 2598, 2604, 2610, 2616, 2622, 2628, 2634, 2640, 2646, 2652, 2658, 2664, 2670, 2676, 2682, 2688, 2694, 2700, 2706, 2712, 2718, 2724, 2730, 2736, 2742, 2748, 2754, 2760, 2766, 2772, 2778, 2784, 2790, 2796, 2802, 2808, 2814, 2820, 2826, 2832, 2838, 2844, 2850, 2856, 2862, 2868, 2874, 2880, 2886, 2892, 2898, 2904, 2910, 2916, 2922, 2928, 2934, 2940, 2946, 2952, 2958, 2964, 2970, 2976, 2982, 2988, 2994, 3000, 3006, 3012, 3018, 3024, 3030, 3036, 3042, 3048, 3054, 3060, 3066, 3072, 3078, 3084, 3090, 3096, 3102, 3108, 3114, 3120, 3126, 3132, 3138, 3144, 3150, 3156, 3162, 3168, 3174, 3180, 3186, 3192, 3198, 3204, 3210, 3216, 3222, 3228, 3234, 3240, 3246, 3252, 3258, 3264, 3270, 3276, 3282, 3288, 3294, 3300, 3306, 3312, 3318, 3324, 3330, 3336, 3342, 3348, 3354, 3360, 3366, 3372, 3378, 3384, 3390, 3396, 3402, 3408, 3414, 3420, 3426, 3432, 3438, 3444, 3450, 3456, 3462, 3468, 3474, 3480, 3486, 3492, 3498, 3504, 3510, 3516, 3522, 3528, 3534, 3540, 3546, 3552, 3558, 3564, 3570, 3576, 3582, 3588, 3594, 3600, 3606, 3612, 3618, 3624, 3630, 3636, 3642, 3648, 3654, 3660, 3666, 3672, 3678, 3684, 3690, 3696, 3702, 3708, 3714, 3720, 3726, 3732, 3738, 3744, 3750, 3756, 3762, 3768, 3774, 3780, 3786, 3792, 3798, 3804, 3810, 3816, 3822, 3828, 3834, 3840, 3846, 3852, 3858, 3864, 3870, 3876, 3882, 3888, 3894, 3900, 3906, 3912, 3918, 3924, 3930, 3936, 3942, 3948, 3954, 3960, 3966, 3972, 3978, 3984, 3990, 3996, 4002, 4008, 4014, 4020, 4026, 4032, 4038, 4044, 4050, 4056, 4062, 4068, 4074, 4080, 4086, 4092, 4098, 4104, 4110, 4116, 4122, 4128, 4134, 4140, 4146, 4152, 4158, 4164, 4170, 4176, 4182, 4188, 4194, 4200, 4206, 4212, 4218, 4224, 4230, 4236, 4242, 4248, 4254, 4260, 4266, 4272, 4278, 4284, 4290, 4296, 4302, 4308, 4314, 4320, 4326, 4332, 4338, 4344, 4350, 4356, 4362, 4368, 4374, 4380, 4386, 4392, 4398, 4404, 4410, 4416, 4422, 4428, 4434, 4440, 4446, 4452, 4458, 4464, 4470, 4476, 4482, 4488, 4494, 4500, 4506, 4512, 4518, 4524, 4530, 4536, 4542, 4548, 4554, 4560, 4566, 4572, 4578, 4584, 4590, 4596, 4602, 4608, 4614, 4620, 4626, 4632, 4638, 4644, 4650, 4656, 4662, 4668, 4674, 4680, 4686, 4692, 4698, 4704, 4710, 4716, 4722, 4728, 4734, 4740, 4746, 4752, 4758, 4764, 4770, 4776, 4782, 4788, 4794, 4800, 4806, 4812, 4818, 4824, 4830, 4836, 4842, 4848, 4854, 4860, 4866, 4872, 4878, 4884, 4890, 4896, 4902, 4908, 4914, 4920, 4926, 4932, 4938, 4944, 4950, 4956, 4962, 4968, 4974, 4980, 4986, 4992, 4998, 5004, 5010, 5016, 5022, 5028, 5034, 5040, 5046, 5052, 5058, 5064, 5070, 5076, 5082, 5088, 5094, 5100, 5106, 5112, 5118, 5124, 5130, 5136, 5142, 5148, 5154, 5160, 5166, 5172, 5178, 5184, 5190, 5196, 5202, 5208, 5214, 5220, 5226, 5232, 5238, 5244, 5250, 5256, 5262, 5268, 5274, 5280, 5286, 5292, 5298, 5304, 5310, 5316, 5322, 5328, 5334, 5340, 5346, 5352, 5358, 5364, 5370, 5376, 5382, 5388, 5394, 5400, 5406, 5412, 5418, 5424, 5430, 5436, 5442, 5448, 5454, 5460, 5466, 5472, 5478, 5484, 5490, 5496, 5502, 5508, 5514, 5520, 5526, 5532, 5538, 5544, 5550, 5556, 5562, 5568, 5574, 5580, 5586, 5592, 5598, 5604, 5610, 5616, 5622, 5628, 5634, 5640, 5646, 5652, 5658, 5664, 5670, 5676, 5682, 5688, 5694, 5700, 5706, 5712, 5718, 5724, 5730, 5736, 5742, 5748, 5754, 5760, 5766, 5772, 5778, 5784, 5790, 5796, 5802, 5808, 5814, 5820, 5826, 5832, 5838, 5844, 5850, 5856, 5862, 5868, 5874, 5880, 5886, 5892, 5898, 5904, 5910, 5916, 5922, 5928, 5934, 5940, 5946, 5952, 5958, 5964, 5970, 5976, 5982, 5988, 5994, 6000, 6006, 6012, 6018, 6024, 6030, 6036, 6042, 6048, 6054, 6060, 6066, 6072, 6078, 6084, 6090, 6096, 6102, 6108, 6114, 6120, 6126, 6132, 6138, 6144, 6150, 6156, 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7158, 7164, 7170, 7176, 7182, 7188, 7194, 7200, 7206, 7212, 7218, 7224, 7230, 7236, 7242, 7248, 7254, 7260, 7266, 7272, 7278, 7284, 7290, 7296, 7302, 7308, 7314, 7320, 7326, 7332, 7338, 7344, 7350, 7356, 7362, 7368, 7374, 7380, 7386, 7392, 7398, 7404, 7410, 7416, 7422, 7428, 7434, 7440, 7446, 7452, 7458, 7464, 7470, 7476, 7482, 7488, 7494, 7500, 7506, 7512, 7518, 7524, 7530, 7536, 7542, 7548, 7554, 7560, 7566, 7572, 7578, 7584, 7590, 7596, 7602, 7608, 7614, 7620, 7626, 7632, 7638, 7644, 7650, 7656, 7662, 7668, 7674, 7680, 7686, 7692, 7698, 7704, 7710, 7716, 7722, 7728, 7734, 7740, 7746, 7752, 7758, 7764, 7770, 7776, 7782, 7788, 7794, 7800, 7806, 7812, 7818, 7824, 7830, 7836, 7842, 7848, 7854, 7860, 7866, 7872, 7878, 7884, 7890, 7896, 7902, 7908, 7914, 7920, 7926, 7932, 7938, 7944, 7950, 7956, 7962, 7968, 7974, 7980, 7986, 7992, 7998, 8004, 8010, 8016, 8022, 8028, 8034, 8040, 8046, 8052, 8058, 8064, 8070, 8076, 8082, 8088, 8094, 8100, 8106, 8112, 8118, 8124, 8130, 8136, 8142, 8148, 8154, 8160, 8166, 8172, 8178, 8184, 8190, 8196, 8202, 8208, 8214, 8220, 8226, 8232, 8238, 8244, 8250, 8256, 8262, 8268, 8274, 8280, 8286, 8292, 8298, 8304, 8310, 8316, 8322, 8328, 8334, 8340, 8346, 8352, 8358, 8364, 8370, 8376, 8382, 8388, 8394, 8400, 8406, 8412, 8418, 8424, 8430, 8436, 8442, 8448, 8454, 8460, 8466, 8472, 8478, 8484, 8490, 8496, 8502, 8508, 8514, 8520, 8526, 8532, 8538, 8544, 8550, 8556, 8562, 8568, 8574, 8580, 8586, 8592, 8598, 8604, 8610, 8616, 8622, 8628, 8634, 8640, 8646, 8652, 8658, 8664, 8670, 8676, 8682, 8688, 8694, 8700, 8706, 8712, 8718, 8724, 8730, 8736, 8742, 8748, 8754, 8760, 8766, 8772, 8778, 8784, 8790, 8796, 8802, 8808, 8814, 8820, 8826, 8832, 8838, 8844, 8850, 8856, 8862, 8868, 8874, 8880, 8886, 8892, 8898, 8904, 8910, 8916, 8922, 8928, 8934, 8940, 8946, 8952, 8958, 8964, 8970, 8976, 8982, 8988, 8994, 9000, 9006, 9012, 9018, 9024, 9030, 9036, 9042, 9048, 9054, 9060, 9066, 9072, 9078, 9084, 9090, 9096, 9102, 9108, 9114, 9120, 9126, 9132, 9138, 9144, 9150, 9156, 9162, 9168, 9174, 9180, 9186, 9192, 9198, 9204, 9210, 9216, 9222, 9228, 9234, 9240, 9246, 9252, 9258, 9264, 9270, 9276, 9282, 9288, 9294, 9300, 9306, 9312, 9318, 9324, 9330, 9336, 9342, 9348, 9354, 9360, 9366, 9372, 9378, 9384, 9390, 9396, 9402, 9408, 9414, 9420, 9426, 9432, 9438, 9444, 9450, 9456, 9462, 9468, 9474, 9480, 9486, 9492, 9498, 9504, 9510, 9516, 9522, 9528, 9534, 9540, 9546, 9552, 9558, 9564, 9570, 9576, 9582, 9588, 9594, 9600, 9606, 9612, 9618, 9624, 9630, 9636, 9642, 9648, 9654, 9660, 9666, 9672, 9678, 9684, 9690, 9696, 9702, 9708, 9714, 9720, 9726, 9732, 9738, 9744, 9750, 9756, 9762, 9768, 9774, 9780, 9786, 9792, 9798, 9804, 9810, 9816, 9822, 9828, 9834, 9840, 9846, 9852, 9858, 9864, 9870, 9876, 9882, 9888, 9894, 9900, 9906, 9912, 9918, 9924, 9930, 9936, 9942, 9948, 9954, 9960, 9966, 9972, 9978, 9984, 9990, 9996, 10002, 10008, 10014, 10020, 10026, 10032, 10038, 10044, 10050, 10056, 10062, 10068, 10074, 10080, 10086, 10092, 10098, 10104, 10110, 10116, 10122, 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10986, 10992, 10998, 11004, 11010, 11016, 11022, 11028, 11034, 11040, 11046, 11052, 11058, 11064, 11070, 11076, 11082, 11088, 11094, 11100, 11106, 11112, 11118, 11124, 11130, 11136, 11142, 11148, 11154, 11160, 11166, 11172, 11178, 11184, 11190, 11196, 11202, 11208, 11214, 11220, 11226, 11232, 11238, 11244, 11250, 11256, 11262, 11268, 11274, 11280, 11286, 11292, 11298, 11304, 11310, 11316, 11322, 11328, 11334, 11340, 11346, 11352, 11358, 11364, 11370, 11376, 11382, 11388, 11394, 11400, 11406, 11412, 11418, 11424, 11430, 11436, 11442, 11448, 11454, 11460, 11466, 11472, 11478, 11484, 11490, 11496, 11502, 11508, 11514, 11520, 11526, 11532, 11538, 11544, 11550, 11556, 11562, 11568, 11574, 11580, 11586, 11592, 11598, 11604, 11610, 11616, 11622, 11628, 11634, 11640, 11646, 11652, 11658, 11664, 11670, 11676, 11682, 11688, 11694, 11700, 11706, 11712, 11718, 11724, 11730, 11736, 11742, 11748, 11754, 11760, 11766, 11772, 11778, 11784, 11790, 11796, 11802, 11808, 11814, 11820, 11826

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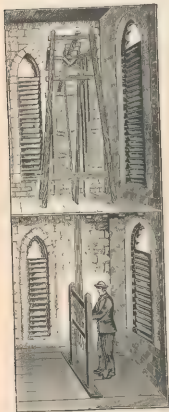
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| 2   | 4' 0" x 3' 6"  | 3' 6" x 2' 4" | 35 ft.  | 1 1/2 cwt.        | 33 0 0  |
| 3   | 5' 0" x 3' 6"  | 3' 6" x 2' 4" | 40 ft.  | 2 1/2 cwt.        | 40 0 0  |
| 4   | 6' 0" x 3' 6"  | 3' 6" x 2' 4" | 45 ft.  | 3 1/2 cwt.        | 47 0 0  |
| 5   | 7' 0" x 3' 6"  | 3' 6" x 2' 4" | 50 ft.  | 4 1/2 cwt.        | 54 0 0  |
| 6   | 8' 0" x 3' 6"  | 3' 6" x 2' 4" | 55 ft.  | 5 1/2 cwt.        | 61 0 0  |
| 7   | 9' 0" x 3' 6"  | 3' 6" x 2' 4" | 60 ft.  | 6 1/2 cwt.        | 68 0 0  |
| 8   | 10' 0" x 3' 6" | 3' 6" x 2' 4" | 65 ft.  | 7 1/2 cwt.        | 75 0 0  |
| 9   | 11' 0" x 3' 6" | 3' 6" x 2' 4" | 70 ft.  | 8 1/2 cwt.        | 82 0 0  |
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With sliding screen divisions, 1/2 inch, 1/4 inch, 1/8 inch, 1/16 inch, 1/32 inch, 1/64 inch, 1/128 inch, 1/256 inch, 1/512 inch, 1/1024 inch, 1/2048 inch, 1/4096 inch, 1/8192 inch, 1/16384 inch, 1/32768 inch, 1/65536 inch, 1/131072 inch, 1/262144 inch, 1/524288 inch, 1/1048576 inch, 1/2097152 inch, 1/4194304 inch, 1/8388608 inch, 1/16777216 inch, 1/33554432 inch, 1/67108864 inch, 1/134217728 inch, 1/268435456 inch, 1/536870912 inch, 1/1073741824 inch, 1/2147483648 inch, 1/4294967296 inch, 1/8589934592 inch, 1/17179869184 inch, 1/34359738368 inch, 1/68719476736 inch, 1/137438953472 inch, 1/274877906944 inch, 1/549755813888 inch, 1/1099511627776 inch, 1/2199023255552 inch, 1/4398046511104 inch, 1/8796093022208 inch, 1/17592186044416 inch, 1/35184372088832 inch, 1/70368744177664 inch, 1/140737488355328 inch, 1/281474976710656 inch, 1/562949953421312 inch, 1/1125899906842624 inch, 1/2251799813685248 inch, 1/4503599627370496 inch, 1/9007199254740992 inch, 1/18014398509481984 inch, 1/36028797018963968 inch, 1/72057594037927936 inch, 1/144115188075855872 inch, 1/288230376151711744 inch, 1/576460752303423488 inch, 1/1152921504606846976 inch, 1/2305843009213693952 inch, 1/4611686018427387904 inch, 1/9223372036854775808 inch, 1/18446744073709551616 inch, 1/36893488147419103232 inch, 1/73786976294838206464 inch, 1/147573952589676412928 inch, 1/295147905179352825856 inch, 1/590295810358705651712 inch, 1/1180591620717411303424 inch, 1/2361183241434822606848 inch, 1/4722366482869645213696 inch, 1/9444732965739290427392 inch, 1/18889465931478580854784 inch, 1/37778931862957161709568 inch, 1/75557863725914323419136 inch, 1/151115727451828646838272 inch, 1/302231454903657293676544 inch, 1/604462909807314587353088 inch, 1/1208925819614629174706176 inch, 1/2417851639229258349412352 inch, 1/4835703278458516698824704 inch, 1/9671406556917033397649408 inch, 1/19342813113834066795298816 inch, 1/38685626227668133590597632 inch, 1/77371252455336267181195264 inch, 1/154742504910672534362390528 inch, 1/309485009821345068724781056 inch, 1/618970019642690137449562112 inch, 1/1237940039285380274899124224 inch, 1/2475880078570760549798248448 inch, 1/4951760157141521099596496896 inch, 1/9903520314283042199192993792 inch, 1/19807040628566084398385987584 inch, 1/39614081257132168796771975168 inch, 1/79228162514264337593543950336 inch, 1/158456325028528675187087900672 inch, 1/316912650057057350374175801344 inch, 1/633825300114114700748351602688 inch, 1/1267650600228229401496703205376 inch, 1/2535301200456458802993406410752 inch, 1/5070602400912917605986812821504 inch, 1/10141204801825835211973625643008 inch, 1/20282409603651670423947251286016 inch, 1/40564819207303340847894502572032 inch, 1/81129638414606681695789005144064 inch, 1/162259276829213363391578010288128 inch, 1/324518553658426726783156020576256 inch, 1/649037107316853453566312041152512 inch, 1/1298074214633706907132624082305024 inch, 1/2596148429267413814265248164610048 inch, 1/5192296858534827628530496329220096 inch, 1/10384593717069655257060992658440192 inch, 1/20769187434139310514121985316880384 inch, 1/41538374868278621028243970633760768 inch, 1/83076749736557242056487941267521536 inch, 1/166153499473114484112975882535043072 inch, 1/332306998946228968225951765070086144 inch, 1/664613997892457936451903530140172288 inch, 1/1329227995784915872903807060280344576 inch, 1/2658455991569831745807614120560689152 inch, 1/5316911983139663491615228241121378304 inch, 1/10633823966279326983230456482242756608 inch, 1/21267647932558653966460912964485513216 inch, 1/42535295865117307932921825928971026432 inch, 1/85070591730234615865843651857942052864 inch, 1/170141183460469231731687303715884105728 inch, 1/340282366920938463463374607431768211456 inch, 1/680564733841876926926749214863536422912 inch, 1/1361129467683753853853498429727072845824 inch, 1/272225893536750770770699685945414569152 inch, 1/544451787073501541541399371890829138304 inch, 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1/570899077082383952423314387779798054526255104 inch, 1/1141798154164767904846628775559596109052510208 inch, 1/2283596308329535809693257551119192218105020416 inch, 1/4567192616659071619386515102238384436210040832 inch, 1/9134385233318143238773030204476768872420081664 inch, 1/18268770466636286477546060408953537744840163328 inch, 1/36537540933272572955092120817907075489680326656 inch, 1/73075081866545145910184241635814150979360653312 inch, 1/146150163733090291820368483271628301958721306624 inch, 1/292300327466180583640736966543256603917442613248 inch, 1/584600654932361167281473933086513207834885226496 inch, 1/1169201309864722334562947866173026415669770452992 inch, 1/2338402619729444669125895732346052831339540905984 inch, 1/4676805239458889338251791464692105662679081811968 inch, 1/9353610478917778676503582929384211325358163623936 inch, 1/18707220957835557353007165858768422650716327247872 inch, 1/37414441915671114706014331717536845301432654495744 inch, 1/74828883831342229412028663435073690602865308991488 inch, 1/149657767662684458824057326870147381205730617982976 inch, 1/299315535325368917648114653740294762411461235965952 inch, 1/598631070650737835296229307480589524822922471931904 inch, 1/1197262141301475670592458614961179049645844943863808 inch, 1/2394524282602951341184917229922358099291689887727616 inch, 1/4789048565205902682369834459844716198583379775455232 inch, 1/9578097130411805364739668919689432397166759550910464 inch, 1/19156194260823610729479337839378864794333519101820928 inch, 1/38312388521647221458958675678757729588667038203641856 inch, 1/76624777043294442917917351357515459177334076407283712 inch, 1/153249554086588885835834702715030918354668152814567424 inch, 1/306499108173177771671669405430061836709336305629134848 inch, 1/612998216346355543343338810860123673418672611258269696 inch, 1/1225996432692711086686677621720247346837345222516539392 inch, 1/2451992865385422173373355243440494693674690445033078784 inch, 1/4903985730770844346746710486880989387349380890066157568 inch, 1/9807971461541688693493420973761978774698761780132315136 inch, 1/19615942923083377386986841947523957549397523560264630272 inch, 1/39231885846166754773973683895047915098795047120529260544 inch, 1/78463771692333509547947367790095830197590094241058521088 inch, 1/156927543384667019095894735580191660395180188482117042176 inch, 1/313855086769334038191789471160383320790360376964234084352 inch, 1/627710173538668076383578942320766641580720753928468168704 inch, 1/1255420347077336152767157884641533283161441507856936337408 inch, 1/2510840694154672305534315769283066566322883015713872674816 inch, 1/5021681388309344611068631538566133132645766031427745349632 inch, 1/10043362776618689222137263077132266265291532062855490699264 inch, 1/20086725553237378444274526154264532530583064125710981398528 inch, 1/40173451106474756888549052308529065061166128251421962797056 inch, 1/80346902212949513777098104617058130122332256502843925594112 inch, 1/160693804425899027554196209234116260244664513005687851188224 inch, 1/321387608851798055108392418468232520489329026011375702376448 inch, 1/642775217703596110216784836936465040978658052022751404752896 inch, 1/1285550435407192220433569673872930081957316104045502809505792 inch, 1/2571100870814384440867139347745860163914632208091005619011584 inch, 1/5142201741628768881734278695491720327829264416182011238023168 inch, 1/10284403483257537763468557390983440655658528832364022476046336 inch, 1/20568806966515075526937114781966881311317057664728044952092672 inch, 1/41137613933030151053874229563933762622634115329456089904185344 inch, 1/82275227866060302107748459127867525245268230658912179808370688 inch, 1/164550455732120604215496918255735050490536461317824359616741376 inch, 1/329100911464241208430993836511470100981072922635648719233482752 inch, 1/658201822928482416861987673022940201962145845271297438466965504 inch, 1/1316403645856964833723975346045880403924291690542594876933931008 inch, 1/2632807291713929667447950692091760807848583381085189753867862016 inch, 1/5265614583427859334895901384183521615697166762170379507735724032 inch, 1/10531229166857718669791802768367043231394333524340759015471448064 inch, 1/21062458333715437339583605536734086462788667048681518030942896128 inch, 1/42124916667430874679167211073468172925577334097363036061885792256 inch, 1/84249833334861749358334422146936345851154668194726072123771584512 inch, 1/168499666689723498716668844293872691702309336389452144247543169024 inch, 1/336999333379446997433337688587745383404618672778904288495086338048 inch, 1/673998666758893994866675377175490766809237345557808576990172676096 inch, 1/1347997333517787989733350754350981533618474691115617153980345352192 inch, 1/2695994667035575979466701508701963067236949382231234307960690704384 inch, 1/5391989334071151958933403017403926134473898764462468615921381408768 inch, 1/10783978668142303917866806034807852268947997528924937231842762817536 inch, 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1/361850278909631503135395328152149712024461294620479839450136219653140119552 inch, 1/723700557819263006270790656304299424048922589240959678900272439306280239104 inch, 1/144740

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| 'Outside Venetians' .. .. .                               | 2/-           |
| Jalousies, or Shutter Blinds (hinged) ..                  | 3/-           |
| " " (sliding) .. .. .                                     | 4/-           |
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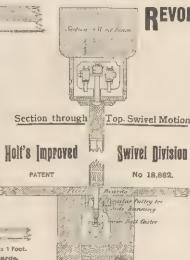
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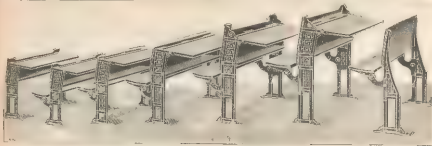
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1868  
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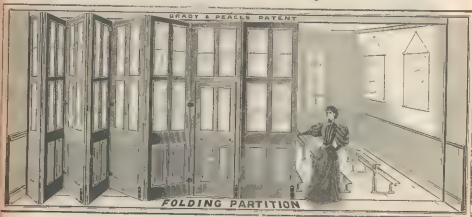
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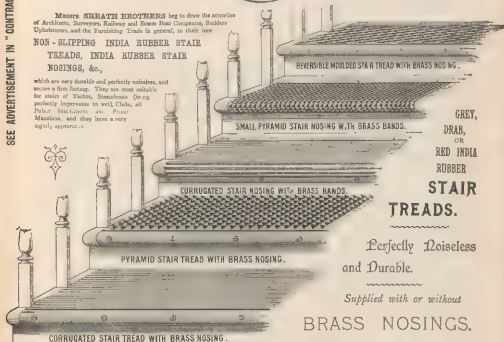
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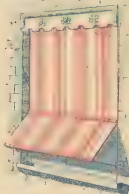
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SECTION

- L Lintel
- I Roll on
- Cloth
- Top of Reveal
- A Head of Sash Frame
- B Brackets
- C Lath of Blindcase
- D Blind
- R Reveal
- B Bracket from out of use

SPECIALITY TO ARCHITECTS.

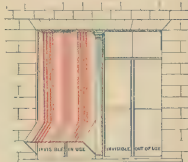
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# Glazing, Stained Glass, Paints, ETC.

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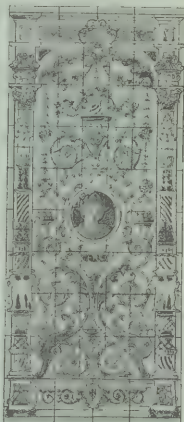


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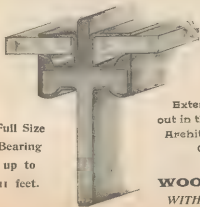
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For 21 oz. Glass.  
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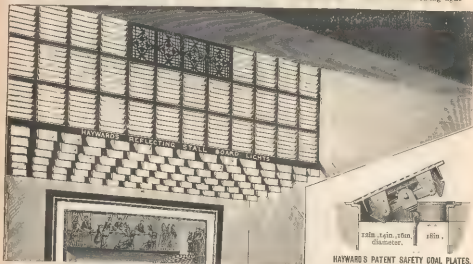
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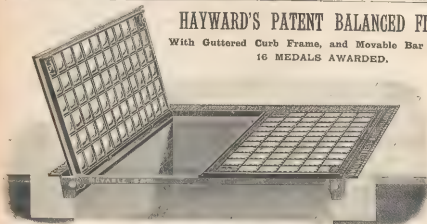


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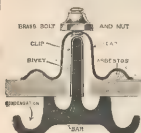
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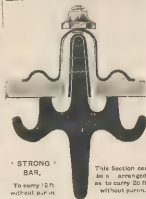


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To carry 6 ft. 6 in. without purlin

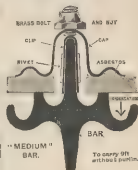
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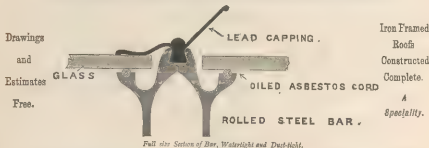
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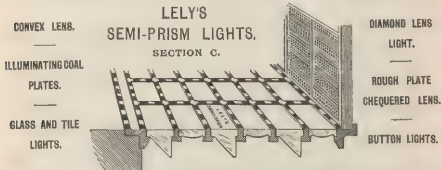
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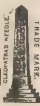
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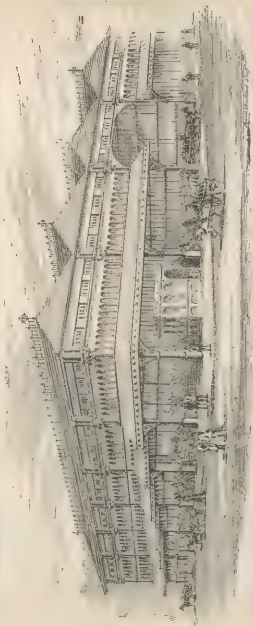


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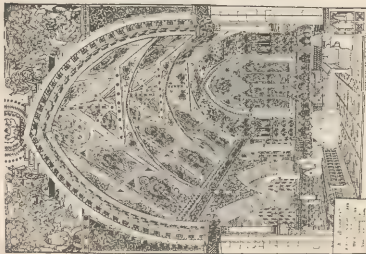
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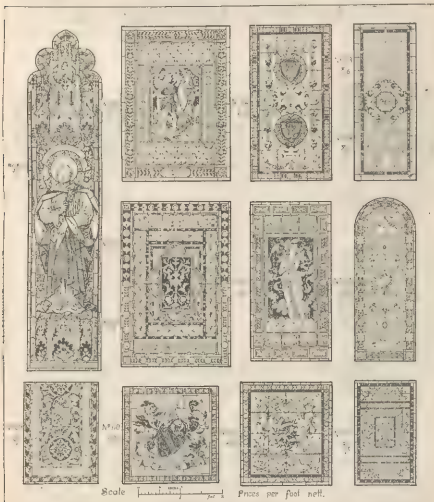
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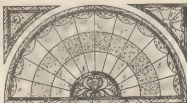
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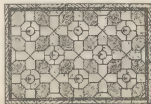
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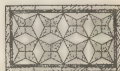
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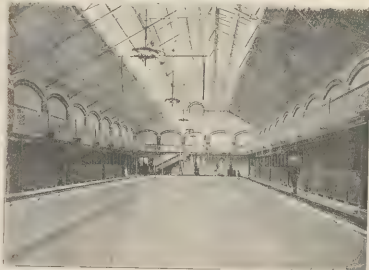
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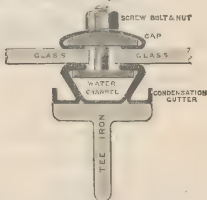
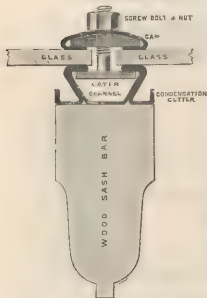


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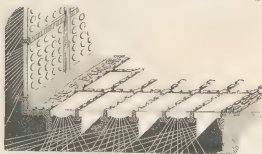
The above illustration explains itself. The central channel is provided to carry off any water that may find its way under the cap, and the side gutters to catch any moisture that may condense on the inside of the glass and convey it to the outside of the roof.

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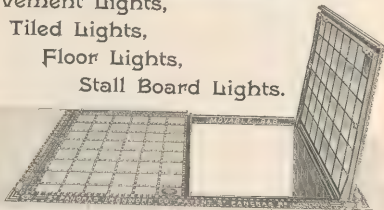
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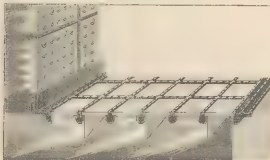
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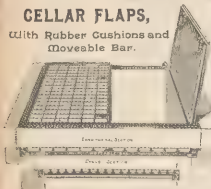
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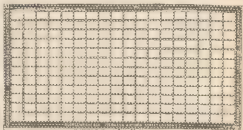
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# Hot Water, Warming, Lighting, and Ventilating.

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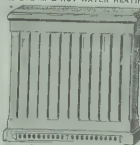


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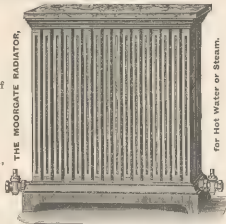
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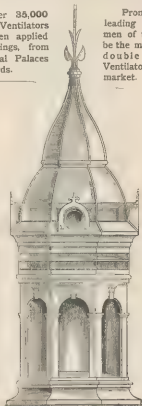
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No 77746 A

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28a, Upper George St., Edgware Rd., London, W.



**H. W. COOPER & Co., Lim.,**

MANUFACTURERS OF

**Cooper's Glass, Revolving, Circular & Sliding Ventilators.**

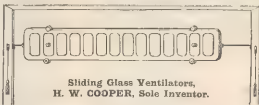
(H. W. COOPER, Sole Inventor)

IMPROVED GLASS LOUVER AND VENETIAN VENTILATORS, IMPROVED COPPER, BRASS, GUN METAL, AND IRON CASEMENTS, for Private and Public Buildings, Churches, Halls, and Lights of every description.

GLASS CIRCULAR VENTILATOR.



SHUT

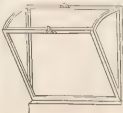


Sliding Glass Ventilators,  
H. W. COOPER, Sole Inventor.

IMPROVED GLASS LOUVER VENTILATORS.



Improved Copper, Brass, Gun-Metal, and Iron Casements.



Orders to be sent to the Office, addressed to The Secretary, H. W. COOPER & Co. Limited."

28a, UPPER GEORGE STREET, EDGWARE ROAD, LONDON, W.

SEC. G—HOT WATER, WARMING, LIGHTING, & VENTILATING. 293

# COMYN CHING & Co.,

TRADE MARK:  
"COMYN CHING,  
LONDON."

ART METAL WORKERS,

Telephone No.,  
2912.

*Ventilating, Warming, and Lighting Engineers*

For MANSIONS, ASYLUMS, UNIONS, &c.

**BRASS FOUNDRY MADE TO DESIGN.**

WROUGHT IRON WORK, GRILLES, RAILINGS, BALCONIES, AWNINGS, BALUSTERS.

Cooking Apparatus for Hotels, Mess-Rooms, Clubs, &c.

Patentees of "Silent Mica Valve," and other Ventilators.



ARCHITECTS' DESIGNS AND INSTRUCTIONS CAREFULLY CARRIED OUT.

COMYN CHING & Co., Castle Street, LONDON, W.C.

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*Architects would oblige by mentioning the source of their  
information when communicating with the Firms represented in  
"The Compendium."*

294 SEC. G—HOT WATER, WARMING, LIGHTING, & VENTILATING.



LARGE CHURCHES, CHAPELS, PUBLIC BUILDINGS,  
Public & Private Turkish Baths Heated & Fitted up throughout.  
MANSIONS & DETACHED HOUSES  
EFFECTUALLY WARMED BY THE

## CONVOLUTED STOVE.

The Royal Exchange and Free Trade Hall, Manchester, Mr. Charrington's Great Assembly Hall, Mile End Road, London, are warmed in all parts by this Apparatus with less Fuel than any other buildings of the same dimensions

ILLUSTRATED CIRCULAR FREE.

For Inspection and Report, Expenses charged if Order not afterwards given.

**J. CONSTANTINE & SON,**  
CONVOLUTED STOVE WORKS, STOCKTON ST., CLARENDON ST., MANCHESTER.

## SMOKY CHIMNEYS & DEFECTIVE VENTILATION.

The "DULCE DOMUM" Chimney Top & Ventilators  
(DOWNES' PATENT) are Positive Cures of these evils.



Ventilator  
for House

It is the only Chimney Top which can be easily and effectually swept with the ordinary Apparatus without being damaged. Prevents Down Draught, and is so constructed that it creates a continuous and powerful Up Draught. Strongly made in Galvanized Iron, having no moveable parts to oil or repair, cannot get out of order.

ONCE FIXED WILL LAST FOR YEARS

Applicable for Ventilating Soil Pipes, Main Drainage Shafts, and the  
Ventilation of Public Buildings.

The latter made specially with an external Decoration to suit position of same.

For further particulars and Prices apply to the Patentee.

199, LEWISHAM HIGH ROAD, NEW CROSS, LONDON, S.E.  
(NEAR 11, THE PARADE, LEWISHAM HIGH ROAD.)



Ventilator  
for  
Soil Pipe



Ventilator  
for  
Public Buildings

# DRAKE & GORHAM,

Electrical, Mechanical, and Hydraulic Engineers.

CONTRACTORS FOR COMPLETE EQUIPMENTS OF  
ELECTRIC LIGHTING AND POWER PLANTS  
IN ANY PART OF THE WORLD.

### Electricians to the

BANK OF ENGLAND,  
METROPOLITAN POLICE, NEW SCOTLAND YARD,  
HIS GRACE THE DUKE OF DEVONSHIRE,  
HIS GRACE THE DUKE OF MONTROSE,  
THE RIGHT HON. THE MARQUIS OF LONDONDERRY,  
THE RIGHT HON. LORD ARMSTRONG,  
THE RIGHT HON. THE LANC OF CREWE,  
THE RIGHT HON. THE EARL OF DRAKE,  
THE RIGHT HON. LORD KNOTSFORD,  
THE RIGHT HON. LORD LEE,  
ETC., ETC.

### Sole Agents for the

## JANDUS ARC LAMP,

Which burns 200 hours without re-trimming,  
burning a single pair of Carbons.

### Manufacturers of

STORAGE BATTERIES,  
CARDEW EARTHING DEVICE,  
ELECTRICAL RECORDING INSTRUMENTS,  
And General Electrical Apparatus.

Head Offices 66, VICTORIA STREET, WESTMINSTER, LONDON, S.W.  
Branches—MANCHESTER, GLASGOW, and SCARBORO'.

Telegrams—"ACCUMULATOR, LONDON" Telephone, 5071

Contractors to  
H. M. Government.

# COUSLAND & MACKAY,

Contractors to  
Imperial Court of  
Berlin.

Automatic & Mechanical Ventilating Engineers,  
150, HOPE STREET, GLASGOW.



## — PRICES. —

Made in Strong Galvanized Steel, and Keenly Painted.

Prices do not include Wood Base or Moulding.

| SIZE.  | PIPE.  | NO. 1 & 2. | DESIGN NO. 3. | D.      |
|--------|--------|------------|---------------|---------|
| Head.  |        |            |               |         |
| 12 in. | 6 in.  | £1 4 6     | £1 5 0        |         |
| 14 in. | 7 in.  | 1 12 6     | 1 10 0        |         |
| 16 in. | 8 in.  | 2 0 0      | 2 0 0         |         |
| 18 in. | 9 in.  | 2 4 0      | 2 4 0         |         |
| 20 in. | 10 in. | 2 12 6     | 2 10 0        | £3 12 6 |
| 22 in. | 11 in. | 3 0 0      | 3 0 0         | 4 7 0   |
| 24 in. | 12 in. | 3 12 6     | 3 10 0        | 5 12 0  |
| 26 in. | 13 in. | 3 12 6     | 3 10 0        | 5 12 0  |
| 28 in. | 14 in. | 3 12 6     | 3 10 0        | 5 12 0  |
| 30 in. | 15 in. | 3 12 6     | 3 10 0        | 5 12 0  |

Prices of larger sizes on application. Made to fit into Architects' Turrets, 10 per cent. under above prices.

NOTE.—The Extending Power of our "Climax" Patent Direct-Acting Turret Ventilator is determined by the AREA of OUTLET in the Head of the Ventilator, which can be arranged as to give an extension equal to the dimensions of the largest size of Pipes given above. Architects, therefore, can confidently specify such, and rely upon the Extending Force being EQUAL to DIMENSIONS of LARGEST PIPE.

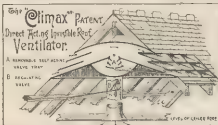
REDUCED PRICE LIST CATALOGUES, containing more Ornamental Designs, Post Free on Application.

Fitted with  
REMOVABLE DOUBLE TIER  
SELF ACTING VALVE TRAY

Thoroughly Water Tight

Warranted free from Down-  
draught

Give Largest Extraction  
of any  
INVISIBLE ROOF VENTILATOR



CAUTION Architects are cautioned against installing one of this Ventilator offered to the Building Trade at large discounts. Such Ventilators bear no comparison with our "Climax" Patent Invisible Roof Ventilator either in Area of Outlet, Power of Extraction, Freedom from Down-draught, or Quality of Manufacture

For Pitch NOT LESS than 40°.

## PRICES.

For Pitch NOT LESS than 45°.

| Length. | Pipe.  | For open roof, exclusive of pipe. | For pitched roof, exclusive of pipe. | For pitched roof, exclusive of pipe. |
|---------|--------|-----------------------------------|--------------------------------------|--------------------------------------|
| 12 in.  | 6 in.  | £1 4 6                            | £1 5 0                               | £1 5 0                               |
| 14 in.  | 7 in.  | 1 12 6                            | 1 10 0                               | 1 10 0                               |
| 16 in.  | 8 in.  | 2 0 0                             | 2 0 0                                | 2 0 0                                |
| 18 in.  | 9 in.  | 2 4 0                             | 2 4 0                                | 2 4 0                                |
| 20 in.  | 10 in. | 2 12 6                            | 2 10 0                               | 2 10 0                               |
| 22 in.  | 11 in. | 3 0 0                             | 3 0 0                                | 3 0 0                                |
| 24 in.  | 12 in. | 3 12 6                            | 3 10 0                               | 3 10 0                               |
| 26 in.  | 13 in. | 3 12 6                            | 3 10 0                               | 3 10 0                               |
| 28 in.  | 14 in. | 3 12 6                            | 3 10 0                               | 3 10 0                               |
| 30 in.  | 15 in. | 3 12 6                            | 3 10 0                               | 3 10 0                               |

N.B. For Lower Pitch Roofs ADD 25 per cent.

SPECIFYING Kindly use the words Cousland & Mackay's (150, Hope Street, Glasgow)  
"Climax" Patent Direct-Acting . . . Ventilator

Made in strong gauges of Galvanized Steel, to pitch of Roof, with Flanges to lap the Slaton or Tiles, and fixed at a trifling expense

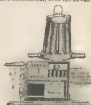
Regulating Valves for Pitch in Pipes, fitted with Strong Wrought Iron Spindles and Crank Handles supplied when required.

# IMPROVED UPRIGHT TUBULAR BOILERS.

The Upright Tubular Boiler, with Tubular Firechase, is generally acknowledged to be the most powerful and economical, with the advantage of being self-feeding.



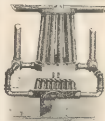
No. 2 BOILER



No. 3 BOILER



No. 3 BOILER



No. 4 BOILER

## PRICES.

| Size   | Dimensions.                     | Working Pressure.       | Weight of Tubes (lb.) | Weight of Firechase (lb.) | Weight of Boiler (lb.) | Weight of Complete Set (lb.) |
|--------|---------------------------------|-------------------------|-----------------------|---------------------------|------------------------|------------------------------|
| No. 1  | 18 in. diam. 12 ft. h. 12 Tubes | 150 feet 9 in. 100 lbs. | 150                   | 150                       | 150                    | 150                          |
| No. 2  | 18 in. diam. 12 ft. h. 12 Tubes | 150 feet 9 in. 100 lbs. | 150                   | 150                       | 150                    | 150                          |
| No. 3  | 18 in. diam. 12 ft. h. 12 Tubes | 150 feet 9 in. 100 lbs. | 150                   | 150                       | 150                    | 150                          |
| No. 4  | 18 in. diam. 12 ft. h. 12 Tubes | 150 feet 9 in. 100 lbs. | 150                   | 150                       | 150                    | 150                          |
| No. 5  | 18 in. diam. 12 ft. h. 12 Tubes | 150 feet 9 in. 100 lbs. | 150                   | 150                       | 150                    | 150                          |
| No. 6  | 18 in. diam. 12 ft. h. 12 Tubes | 150 feet 9 in. 100 lbs. | 150                   | 150                       | 150                    | 150                          |
| No. 7  | 18 in. diam. 12 ft. h. 12 Tubes | 150 feet 9 in. 100 lbs. | 150                   | 150                       | 150                    | 150                          |
| No. 8  | 18 in. diam. 12 ft. h. 12 Tubes | 150 feet 9 in. 100 lbs. | 150                   | 150                       | 150                    | 150                          |
| No. 9  | 18 in. diam. 12 ft. h. 12 Tubes | 150 feet 9 in. 100 lbs. | 150                   | 150                       | 150                    | 150                          |
| No. 10 | 18 in. diam. 12 ft. h. 12 Tubes | 150 feet 9 in. 100 lbs. | 150                   | 150                       | 150                    | 150                          |

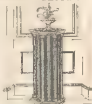
Prices of larger Boilers (to 8000 feet) on application. Bottom made to any required height, and with various other improvements. Extra charges for alterations.

TRADE TERMS ON APPLICATION.

# ORNAMENTAL HOT-WATER PEDESTALS.



ANGLE PEDESTAL



HEXAGON PEDESTAL



OCTAGON PEDESTAL



CORNER PEDESTAL

## PRICES.

| Size   | Dimensions.                     | Weight of Pedestal (lb.) | Weight of Complete Set (lb.) |
|--------|---------------------------------|--------------------------|------------------------------|
| No. 1  | 18 in. diam. 12 ft. h. 12 Tubes | 150                      | 150                          |
| No. 2  | 18 in. diam. 12 ft. h. 12 Tubes | 150                      | 150                          |
| No. 3  | 18 in. diam. 12 ft. h. 12 Tubes | 150                      | 150                          |
| No. 4  | 18 in. diam. 12 ft. h. 12 Tubes | 150                      | 150                          |
| No. 5  | 18 in. diam. 12 ft. h. 12 Tubes | 150                      | 150                          |
| No. 6  | 18 in. diam. 12 ft. h. 12 Tubes | 150                      | 150                          |
| No. 7  | 18 in. diam. 12 ft. h. 12 Tubes | 150                      | 150                          |
| No. 8  | 18 in. diam. 12 ft. h. 12 Tubes | 150                      | 150                          |
| No. 9  | 18 in. diam. 12 ft. h. 12 Tubes | 150                      | 150                          |
| No. 10 | 18 in. diam. 12 ft. h. 12 Tubes | 150                      | 150                          |

Prices for other sizes on application. Material and dimensions of Pedestals extra on above prices.

## TRADE TERMS ON APPLICATION.

Makers of Plain and Ornamental Hot Water Colls, in large Variety of Sizes.

PRICES ON APPLICATION.

# JAMES CRISPIN, F.R.H.S., & SONS, HEATING & VENTILATING ENGINEERS, NELSON STREET, BRISTOL.

Specialities in Turkish and Private Bath Apparatus, Steam Cooking and Heating Apparatus, Improved Hot Water Ventilating Radiators.

TELEPHONE 463.

Awarded Two Medals of the Royal Horticultural Society.



By Her Majesty's



Royal Letters Patent.

ESTABLISHED 1886.

# R. P. DE RIDDER, HEATING & VENTILATING ENGINEER, ETC., FAIRFIELD ST, FAIRFIELD, LIVERPOOL.

(Telegraphic Address—"DERIDDER, LIVERPOOL.")

## DE RIDDER'S PATENT "SMALL PIPE SAFETY."

NEATNESS.

Patronized by

DURABILITY.



HER MAJESTY'S WAR OFFICE,  
THE LONDON SCHOOL BOARD,  
THE HANLEY SCHOOL BOARD,  
THE MERSEY DOCKS AND HARBOUR  
BOARD,  
THE LEADING LONDON & PROVINCIAL  
ARCHITECTS, &c.



APPROVED BY THE PRINCIPAL INSURANCE COMPANIES.

## HOT WATER HEATING APPARATUS FOR WARMING & VENTILATING

Churches, Chapels, Schools, Mansions, Residences, Conservatories, Public Buildings of all kinds: also Turkish and other Baths: Laundries, Drying Rooms, Manufactories and Buildings of every Description.

THIS APPARATUS consists of a continuous tube of only one inch and a-quarter in diameter, a portion of which forms a Coil, and is placed in a furnace which heats the water in the Coil, causing the Circulation. It has also a Special Expansion Tube with self-acting Valve, &c., which does not end or boil up the Apparatus, but provides amply for both the Expansion of Water and Escape of Air without Loss of Water, a result hitherto thought impossible: thus my Apparatus cannot justly be called High Pressure or Dangerous.

**CAUTION.** Attempted infringement necessitates notifying that "The combination of an Expansion Tube with a Safety Valve" is covered by my Patent, and can only be supplied by me.

**SAFETY**—It is perfectly Safe, there being neither Boilers, Steam, Metal Plates, Cisterns to boil over or cause undue strain, nor Hermetical Sealing of the Apparatus. It can also (when desired) be charged with Non-Freezing Liquid, and can be fired any weather, regardless of Frost.

**NO TWO QUALITIES OF PIPING USED. ONLY COMPETENT & STEADY MEN EMPLOYED. NO PIECEWORK ALLOWED.**

EVERY APPARATUS IS GRATUITOUSLY GUARANTEED.

**ADVANTAGES.** NO HERMETICAL SEALING—NO CISTERN to boil over or get out of order—NO BOILER—NO STEAM—NO CAST IRON PIPES—NO BURNING AIR OR SULPHUR FUMES—THE ONLY SYSTEM PROVIDING FOR SILENT AND SELF-ACTING EXPANSION (without loss) OF WATER AND RELIEF OF AIR.

Sketches under, show Piping as fired in Residences, Offices, &c. in front of and under Skirting Boards, with and without Grating in front.



Piping in front of 12 in. high Ordinary Skirting Board.

Piping under without Grating in front. Painted.

Piping under with Grating in front.

PLANS AND ESTIMATES FURNISHED FREE OF CHARGE ON APPLICATION.

Telegraphic Address—"DERIDDER, LIVERPOOL."

Hot Water Supply.

AND HEATING

EFFICIENCY GUARANTEED.

*(Author of "How to Warm Buildings by Hot Water.")*

**FREDK. DYE & CO.,** 58, ST. PAUL'S CHURCHYARD, LONDON, E.C.

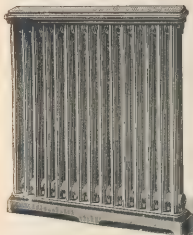
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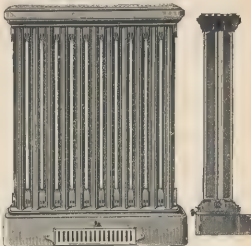
# F. EDWARDS & SON, 54, GREAT MARLBOROUGH STREET, LONDON, W., HEATING ENGINEERS.

PLANS AND ESTIMATES GIVEN for Heating Public and Private Buildings,  
by low pressure Hot Water Apparatus. Radiators, Coils or Pipes.

NEW DESIGN DIRECT HEATING RADIATOR



NEW DESIGN VENTILATING RADIATOR



← 2 ft. 6 in. →



These Radiators have a great direct Radiating Surface in a Small Space; they can be made various widths. The height of the Direct Heating Radiator is 3ft., and of the Ventilating Radiator is 3ft. 4in.

**HOT WATER SUPPLY. KITCHENS FITTED.  
STOVE & GRATE MANUFACTURERS.**

See also Advertisement, page 380.



THE EAGLE CHIMNEY TOP (PATD.)  
Warranted to cure Down-Blow.

Made in Metal or Terra Cotta

**EFFICIENCY GUARANTEED.**

Is Cheap. has no working parts, full value allowed if unsuccessful

A. WATERHOUSE, Esq (the eminent Architect), writes "I have waited before paying you to account to test your Eagle Chimney Top. It has been so far successful, more so than anything yet tried. If you approve, send will furnish me with a working drawing. I should like to debase the top in terra cotta for my own buildings." (This has since been done.)

The only Chimney Top having a guarantee of efficiency.

The EAGLE RANGE & FOUNDRY Co., Ltd.,

176, Regent Street, & 68, St. Paul's Churchyard, London.

WRITE FOR A PRICE LIST.]

[SEE ALSO OUR PAGE IN SECTION H.



**G. N. HADEN & SONS,**  
Engineers.

MANUFACTURERS OF

**HEATING AND VENTILATING APPARATUS.**

— ORIGINAL PATENTEES OF THE EXPANSION JOINT. —

Buildings of every description treated according to their special requirements, and success guaranteed.

HEATING BY HOT WATER, WARM AIR, COMBINED AIR & WATER, AND STEAM.  
VENTILATION BY MECHANICAL OR AUTOMATIC ARRANGEMENTS.

Other branches of Engineering Work carried out, including  
HOT WATER SERVICE, LAUNDRY AND COOKING WORK, ENGINES, PUMPS, and  
COLD WATER SUPPLY, HYDRANT SERVICE, Etc., etc.

HOT WATER RADIATORS OF SPECIAL DESIGNS. PLANS AND ESTIMATES GIVEN.

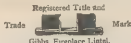
CONTRACTORS TO H. M. GOVERNMENT AND THE CROWN AGENTS FOR THE COLONIES.

**G. N. HADEN & SONS, Engineers,**  
**Trowbridge.**

Branch Offices: 123, CROMER ST., LONDON, W.C.; 4, ALBERT SQ., MANCHESTER; LOWER TEMPLE ST., BIRMINGHAM.

*Architects would oblige by mentioning the source of their information when communicating with the Firms represented in "The Compendium."*

International Exhibition,  
Liverpool, 1886  
Gold Medal—Highest Award.



Telegraphic Address,  
—VENTILATION, LIVERPOOL  
Telephone No. 1389

# JOHN GIBBS & SON,

WARMING, VENTILATING, AND CONSULTING ENGINEERS,

72, 74, & 76, DUKE ST. (late of 27, South John Street), LIVERPOOL.

Contractors to the Lords Commissioners of the Admiralty, H. M. War Office, Her Majesty's Office of Works, the School Board for London and Leading Corporations

## WARMING AND VENTILATING INSTALLATIONS

Public Buildings, Asylums, Infirmaries, Churches, Colleges, Hospitals, Mansions, Clubs, Schools, Dwelling Houses, Railway Stations, Warehouses, Shops, Offices, Police Cells, Steamships, Yachts, Lighthouses, Railway Carriages, Furniture Store Rooms, Factories, Conservatories, Greenhouses, Hot-Houses, Plant Houses, and Drying Rooms, Hot Closets, Disinfectors, &c., &c., &c.



### "IMPROVED SMALL BORE PIPE" Hot Water Warming Apparatus.

This Apparatus, when scientifically designed and fixed, is the most economical system of warming known, as the consumption of fuel is small, the heat is quickly got up, is easily managed is perfectly safe, is the same of simplicity, is efficient and durable. The pipes being so small, they can be fixed where larger pipes would be inadmissible, and can be bent round columns, mouldings, and all kinds of fittings. It can be filled with anti-freezing liquid (when desired), and can be fired any weather, regardless of frost.

### "IMPROVED LOW PRESSURE" Hot Water Warming Apparatus.

Constructed of wrought iron piping, from 1 in. diameter upwards, also of cast iron piping from 2 in. diameter upwards, with and without Radiators, in conjunction with ventilating schemes, or otherwise.

### "STEAM WARMING APPARATUS" both High and Low Pressure,

In conjunction with ventilating schemes, or otherwise, with and without Radiators. For Workhouses, Asylums, &c.

### "IMPROVED DIRECT HEATING & VENTILATING RADIATOR" for Hot Water or Steam.

This Radiator is constructed to combine a maximum direct heating surface in the least possible space, with a perfect system of ventilation, and consists of all water contact surface. Leakage, a great source of annoyance and frequent expense, is rendered impossible, each Section being joined together at top and bottom with right and left hand screwed nipples. This construction allows of the Radiator being enlarged or reduced in size, as one of the end sections has simply to be taken off, any number of sections added or taken away, as the case may be, and the end section refixed.

For Ventilating purposes we supply a box-base with dampers, the air-duct being brought in either at the back or underneath the Radiator. The dampers are arranged to be operated by the foot. The base, being wholly under the Radiator and well recessed is entirely out of the way, and not liable to damage, and, if necessary, the base, including dampers, can be easily removed for cleaning and quickly replaced, without disturbing the Radiator.

### PRICES UPON APPLICATION.

J. G. & S. make a specialty of Hot Water Supply Apparatus for Institutions and Domestic purposes.

The fact that we have hitherto relied upon the recommendation afforded by the satisfactory carrying out of work entrusted to our care for the development of our business is in itself a guarantee to intending customers.

All Apparatus designed and carried out by us is guaranteed to work successfully, and maintained in repair for 12 months.

Designs and Estimates on receipt of particulars, or practical Representatives sent to meet Committees, Boards of Guardians, Architects, and others.

Ornamental Radiator.

**JOHN GIBBS & SON,**  
72, 74, & 76, DUKE STREET (late of 27, South John Street), LIVERPOOL.

See also Pages 374 and 643.

302 SEC. G—HOT WATER, WARMING, LIGHTING, & VENTILATING.

Telegraphic Address:  
807110, LONDON, and  
807110, MANCHESTER.

# THOMAS CLOVER & CO.,

Telegraphic Address:  
807110, LONDON, and  
807110, MANCHESTER.

215 to 222, St. John Street, Clerkenwell Green, London, E.C.; 37, Backfriars Street, Manchester; 3, Bridge Row, Deritend, Birmingham; and 62, Victoria Street, Bristol.

ORIGINAL MAKERS. ESTD. 1844.

## THOMAS CLOVER & CO.'S PATENT DRY GAS METERS.

## THOMAS CLOVER & CO.'S PATENT DRY GAS METERS

Are a remedy for all the Defects of Wet Meters.  
Are suitable for all Climates, whether Hot or Cold.  
No Loss of Gas by Evaporation.  
Cannot become fixed by Frost, however severe.  
Are the most accurate and unvarying Measures of Gas.  
Prevent Jarraping and unexpected extinction of the Lights.  
Cannot be tampered with without visibly Damaging the Outer Case.  
Are upheld for Five Years without Charge.

T. G. & CO. HAVE MADE MORE THAN 700,000 OF THESE METERS, & HAVE BEEN AWARDED the following MEDALS:  
LONDON, 1851. NEW YORK, 1853. PARIS, 1855. LONDON, 1862. DUBLIN, 1865. PARIS, 1867.

The latter being the highest Award for Dry Gas Meters at the Paris Exhibition, 1867. Since then we have not Exhibited FOR PRIZES

| Size of Meter. | OUTSIDE DIMENSIONS |           |                      | Diameter of Valve and Outlet. | Distance between centres of Inlet and Outlet. |
|----------------|--------------------|-----------|----------------------|-------------------------------|-----------------------------------------------|
|                | Height.            | Breadth.  | Depth back to front. |                               |                                               |
| 1 Light        | 1 1/2 in.          | 3 1/2 in. | 6 1/2 in.            | 1 1/2 in.                     | 7 1/2 in.                                     |
| 2 "            | 2 1/2 "            | 4 1/2 "   | 7 1/2 "              | 2 "                           | 8 1/2 "                                       |
| 3 "            | 3 1/2 "            | 5 1/2 "   | 8 1/2 "              | 3 "                           | 9 1/2 "                                       |
| 5 "            | 4 1/2 "            | 6 1/2 "   | 10 1/2 "             | 4 "                           | 11 1/2 "                                      |
| 10 "           | 6 1/2 "            | 8 1/2 "   | 14 1/2 "             | 6 "                           | 15 1/2 "                                      |
| 20 "           | 8 1/2 "            | 10 1/2 "  | 18 1/2 "             | 8 "                           | 19 1/2 "                                      |
| 30 "           | 10 1/2 "           | 12 1/2 "  | 22 1/2 "             | 10 "                          | 23 1/2 "                                      |
| 40 "           | 12 1/2 "           | 14 1/2 "  | 26 1/2 "             | 12 "                          | 27 1/2 "                                      |
| 50 "           | 14 1/2 "           | 16 1/2 "  | 30 1/2 "             | 14 "                          | 31 1/2 "                                      |
| 60 "           | 16 1/2 "           | 18 1/2 "  | 34 1/2 "             | 16 "                          | 35 1/2 "                                      |
| 80 "           | 18 1/2 "           | 20 1/2 "  | 38 1/2 "             | 18 "                          | 39 1/2 "                                      |
| 100 "          | 20 1/2 "           | 22 1/2 "  | 42 1/2 "             | 20 "                          | 43 1/2 "                                      |
| 150 "          | 24 1/2 "           | 26 1/2 "  | 46 1/2 "             | 24 "                          | 47 1/2 "                                      |
| 200 "          | 28 1/2 "           | 30 1/2 "  | 50 1/2 "             | 28 "                          | 51 1/2 "                                      |
| 300 "          | 32 1/2 "           | 34 1/2 "  | 54 1/2 "             | 32 "                          | 55 1/2 "                                      |

DIMENSIONS OF LARGER SIZES ON APPLICATION  
Capacity of Meters 1 cubic foot per Minute.

## JAMES GRAY, HEATING AND CONSULTING ENGINEER.

ESTABLISHED 50 YEARS  
ESTIMATES AND PLANS FREE.



By Appointment to H. M. the Queen.

Hot Water Warming on low pressure System.  
Heating by Live or Exhaust Steam.  
Baths and Lavatories fitted with Hot and Cold Water Supply.

CHURCHES, ASYLUMS, SCHOOLS, CHAPELS, CONSERVATORIES.

To Her Majesty's Commissioners of Works.



By Appointment to H. M. the Queen of Wales.

Radiators for Steam and Hot Water, Ventilating Radiators, Hot Water Coils, Boilers, Tanks and Cylinders of every description.

COLLEGES, MANSIONS, PRIVATE RESIDENCES, GREENHOUSES.

To the Board of Trade and War Office.

To the London School Board.

DANVERS ST., CHELSEA, LONDON.

# JOHN GRUNDY

## HEATING APPARATUS MANUFACTURER.

ESTIMATES FREE.



SUCCESS GUARANTEED.

**FOUNDRY: TYLDESLEY, MANCHESTER.**

Showrooms and Workrooms.—TYLDESLEY BUILDINGS, TORRENS STREET, ISLINGTON, N.

West End Showrooms.—57, WIGMORE STREET, LONDON, W.

CHIEF OFFICE.—30, DUNCAN TERRACE, CITY ROAD, LONDON, N.

Telegrams: "JOHN GRUNDY, LONDON."

## WINTER WARMTH AND COMFORT.

Heating and Ventilating Apparatus. Grundy's Speciality, Pure Warm Air,  
AS SUPPLIED TO

Truro Cathedral; Londonderry Cathedral. Sherborne Abbey; Kilmore Cathedral; Stanley Cathedral Falkland Islands; Cardiff Catholic Cathedral. The Queen's School Chapel, Eton. Cork Asylum, Leicester Asylum; and to upwards of three thousand Places of Worship, and a great number of Mansions, Houses, Hotels, Hospitals, Schools, Warehouses, Factories, Workhouses; Cork Court House. Colchester Court House; St. Mark's Hospital, London, &c., &c.

*The following are a few selected from upwards of 1,000 testimonials received.*

24 Brook Street, Grosvenor Square December 5, 1893

SIR WILLIAM PROBYNENT expresses thanks for the "GRUNDY" HEATING APPARATUS supplied to his house, and is glad to say that it has proved very satisfactory for warming and ventilating his property.

The principle of the apparatus is most excellent.  
To Mr GRUNDY.

PROFESSOR TYNDALL writes—

Blind Head House, Haslemere: October 24, 1893

Dear Sir,—My house being so well provided with grates and fires for the generation and distribution of pure warm air, I have been thus enabled to spend my winters in England, instead of on a foreign shore.

Yours very truly, JOHN TYNDALL.

Buckhurst Manor, Wadhurst.

DR. GRIEVES says.—I have insisted upon my Architect adopting the "GRUNDY" system of pure warm air for Heating and Ventilating his latest Manor. I should not see my house warmed with any other method, for I like plenty of ventilation, and do not approve of stagnant air.

Major C. VILLIERS DOWNS writes—

Aspley House, Aspley Guise, Blethley. January 6, 1896.

After two epidemics of influenza I decided to try Mr GRUNDY'S Hot Air Apparatus. This was in November, 1896. I am glad to say that my old house is now thoroughly warm and comfortable, and that the apparatus has worked well and kept us all far freer from colds of all sorts.

To Mr J. GRUNDY

ARCH. COM. S

Fever Hospital and House of Recovery, Cork Street, Dublin.  
October 26, 1891

Dear Sir.—I have much pleasure in informing you that we have found your Heating Apparatus a great success in our new Epidemic Hospital, which is situated at two o'clock, building, each story containing two large wards, a smaller isolation ward, and two nurses' rooms. It is easily managed, does not cost much for fuel, and the air entering is most pleasant, warm and free from smell. It is with the full concurrence of the Managing Committee I give you this testimony.

Yours faithfully, JOHN MARSHALL DAY,

Registrar and Resident Medical Officer.

The Rev. A. BARFF, M.A.,

Prebendary of St. Paul's, London, writes from  
The Vicarage, St. Giles, Cripplegate, E.C.  
April 31st, 1894

Dear Mr. Grundy,—The Heating Apparatus which you placed in our scullery about two months since has been up to the present time in constant use, and has been a great success. The house has been generally warm without the least feeling of oppression, in fact your invention is at the same time a warming and ventilating system.

I am, Mr. Grundy, yours truly,

ALBERT BARFF.

From The Rev. LORD VICTOR A. SEYMOUR M.A.,

The Rectory, Caversham, Oxford, 15th Feb. 1891

Dear Sir,—The Heating Apparatus you fitted last October in Caversham Church is very satisfactory. I am convinced that it is in every way preferable to a Hot Water System.

Yours faithfully,

VICTOR A. SEYMOUR.

Mr. GRUNDY.

## JOHN GRUNDY, HEATING SPECIALIST AND VENTILATING ENGINEER.

## TESTIMONIALS (continued).

Col the Hon. W. P. TALBOT, M.P.,

of Glenhurst, Kober, writes—

Mr. GRUNDY,—I enclose cheque for the Patent Warm Air Apparatus which you have put up in our house; it answers very well. The amount of heat can be perfectly regulated according to the temperature required, and the consumption of fuel is very small.

Col. W. TAYLOR, of Glenleigh, Hastings, writing

January 6th, 1894, says—

I am glad to say the Apparatus gives every satisfaction; indeed, I am very delighted with it. I was in every way satisfied with the conduct of your two men; I never knew two workmen behave better or more industrious.

JOHN GRUNDY, Esq.

Greenwich Hospital Estate, Haydon Bridge,

January 26th, 1894

Herewith I beg to forward cheque in payment of your enclosed account for Heating Apparatus, which I am pleased to say is giving every satisfaction to the Committee.

To JOHN GRUNDY, Esq.

Yours truly,

JOHN DAVIDSON.

North-Eastern Railway Engineers' Office,

Newcastle-on-Tyne

In the year 1884 you supplied an apparatus for warming St. James' Church, which has given every satisfaction, and I am strongly recommending it to a friend of mine who happens to be interested in a new Church about to be built. I think the cost of your system was about a third of the cost of hot water.

Yours truly,

Mr. JOHN GRUNDY.

JOHN J. OLIVER.

5, Leicester Street, Dublin.

I have pleasure in sending you enclosed herewith Certificate for the amount due for warming the new hospital. The Apparatus works in a very satisfactory manner.

Yours faithfully,

JOHN GRUNDY, Esq.

W. M. MITCHELL, Architect.

From W. KAYE PARRY, Esq., Architect, M.A., C.E.,

35, Dame Street, Dublin.

It gives me great pleasure to recommend your system of Heating; I like it better than any other system of warming. It has given entire satisfaction in every building where I have used it.

From GEO. P. BRATER, Esq.,

Architect, M.A., C.E., M.R.I.B.A.,

17, Lower Sackville Street, Dublin.

Dear Sir,—Having used your Warm Air Apparatus in several buildings, I have much pleasure in bearing testimony to the general efficiency, and I do not know of any warming system equal to it.

To Mr. JOHN GRUNDY, 30, Duncan Terrace,

City Road, London, N.

Parkia, Carnarvon, March 23rd, 1895.

See LLEWELYN TURNER, in sending cheque for his account, has very real pleasure in stating that the apparatus has exceeded his most sanguine expectations. During the whole of the inclement weather of the past winter, summer weather was enjoyed indoors without on any occasion having a fire in any of the sitting rooms or in the hall. The latter used to be unbearably cold in the winter, whereas it is now pleasant to sit in on the coldest day. The drawing room and library, which open into the hall at opposite ends of it, each having folding doors eight feet high and eight feet wide, can be occupied in the coldest weather, with the large doors open, and the air being fresh leaves nothing to be desired for the score of health and comfort. The bill for coke is much less than that for coal used in the open fire before the introduction of the "Grundy."

The Right Rev. BISHOP SELWYN,

of Selwyn College, Cambridge, writes

(referring to His Lordship's Residence).—

The warming is very good, and I have no manner of complaint against it.

From General HENRY G. WHITE,

Lough Eske Castle, Co. Donegal, Ireland,

November 24th, 1894.

Dear Sir,—I have pleasure in enclosing cheque for the Warm Air Apparatus, which is a great success. I shall also have much pleasure at any time in bearing testimony to the satisfactory nature of your Heating Apparatus.—Faithfully yours,

HENRY G. WHITE.

The Vicarage, Mattons Ambo, York, June 23rd, 1894.

Dear Mr. Grundy,—I am pleased to tell you that the apparatus has been satisfactorily fixed without a hitch, and the result proved to be a complete success, &c.—Yours truly,

JOHN GRIFFITHS.

The Mount, Bishopstoke, December 3rd, 1894.

Dear Sir,—You are at liberty to make use of any expression in my letter, as I have every confidence, &c., only in the efficient warming of a house by your apparatus. I can recommend your system for healthy ventilation at the same time.

Yours faithfully,

To Mr. JOHN GRUNDY.

J. A. COTTON.

Boyan House, Tunbridge Wells, November 24th, 1894.

Dear Sir,—When I saw the result of your apparatus for warming the Congregational Church at Seaford, I made up my mind that any house built for me should be warmed in the same way. This house is warmed by your apparatus, and need I say that the result is all anyone could wish for.—Yours very truly,

W. H. COLLINGSWOOD.

St. Michael and All Angels, Walthamstow, Feb. 18th, 1895.

Dear Sir,—As we are enduring one of the coldest winters I ever knew, it is a good time to speak of the two "Portsmouth" stoves you lately put in our large schoolroom.

I can hardly tell you how thankful I am that we made up our minds to do away with the hot water apparatus and have your stoves. We get our warmth two hours sooner than we used to, and then obtain a much higher temperature. They are far less trouble than the Boiler was, and the consumption of fuel is much less. They occupy very little space, and we can light them in the evening and leave them burning all night with perfect safety. I shall recommend them whenever I can, and shall be happy to show them in action to my visitor.

Yours faithfully,

Mr. JOHN GRUNDY.

EDWARD LEBERTSON, Vicar.

Athen, Minto, Aberdeenshire, November 28th, 1895.

Colonel RUSSELL writes—

Sir,—I am glad to say the apparatus which you put into this house has worked well, and given great satisfaction. I purpose building a village hall, and will have your apparatus to warm it. Particulars will follow.

Woodthorpe, Shepherd's Hill, Highgate, London, N.

May 20th, 1899.

Dear Sir,—I am very pleased with the warm air apparatus that you have fitted in my house, which has resulted in comfort and convenience to my household quite beyond my expectations. The luxury of maintaining an even temperature throughout the house is cold weather, while at the same time introducing winter experience of pleasant air from the outside, thus reversing the usual windows, really rob an English winter of one of its most unpleasant features. The basement room in which the furnace is placed I now often use as a Turkish bath, and I find I can easily get any temperature I like up to 120 degrees.

Yours truly, H. KENNETH.

## JOHN GRUNDY, HEATING SPECIALIST AND VENTILATING ENGINEER.

### TESTIMONIALS (continued).

Bann Aboe, Wexford December 15th, 1897.

Colonel MAGRATH writes—

Dear Sir.—Your system is exactly what I strongly advocated a quarter of a century ago. Yours seems to be the same idea thought out and perfected. I recommend friends to have air chambers constructed in their houses for effectual warming and ventilating.

Lawn Upton, Littlemore, January 2nd, 1899.

Sir WILLIAM HERSCHELL, Bart., writes—

I have the pleasure to forward you cheques for the warm air furnace. The air is incomparably sweeter than it was when the hot water pipes were used. When properly charged the fire can be kept alight for 18 hours without attention.

Lord HENNIKER has just had the large mansion known as Theobald Hall warmed throughout by a "Grundys." His lordship having been recommended to do so by the Lady Gwendoline Ramsden.

From Dr ROBERTSON.

St. Ann's, West Dulwich, London, February, 1889.

Sir.—Since the introduction of your valuable patent for warming and ventilating my private house, I have enjoyed the greatest possible comfort. The house throughout is delightfully free from draughts and damp. It is just the kind of apparatus that people with weak chests ought to adopt. It is indeed a public boon. Invalids need never visit to winter abroad if they employ a "Grundys" warmer.

From Dr. A. J. HOBART

33 South Mall, Cork, November, 1889.

Your system of heating houses by pure warm air is admirable. To delicate persons it is invaluable. Whenever I am consulted as to the best means of warming and ventilating public or private buildings, I do not fail to recommend the "Grundys."

From G. EATON ELLIS, Esq.,

Wyddiel Hall, Basingford, December 23rd, 1889.

Dear Sir.—Wyddiel Hall (heating).—I have the pleasure to enclose my cheque in payment for the heating apparatus. Your patent is eminently satisfactory, and warms the house well. Before the "Grundys" was introduced the house was never even moderately warm in winter.

Argyll House, Clifton, Bristol.

Dear Sir.—I am perfectly satisfied with the warming of my house by your patent. I had not the least doubt but that it would answer the purpose all right, for I had watched its progress at the Seaman's Institute, where it also works admirably.

Yours faithfully, W. F. LIVINGSTON.

From Rev JOHN LAMB, Ponty Cysmer, Bridgend.

Sir.—I have tried the "Grundys," and it is a little beauty. In twelve minutes after the fire was lighted the warm air came slightly, but in less than an hour the warmth of the place was most comfortable. I am more than satisfied with it.

From Dr. TWIBELL

Kilgeau, Co. Wicklow, March, 1889.

So pleased are the members of my family with your grand system of warming houses by a diffusion of pure warm air, that the ladies with you would call, that they personally may thank you for so adding to the comfort of the home. The sooner the better your admirable invention becomes known to the community at large. It is everything that can be desired.

From Sir HENRY MALET, Bart., Wilbury, Salisbury.

The accounts I have had from some of my friends with large country houses, respecting the warming by your patent were so favourable that I determined to have a "Grundys" for my house. I am very well pleased with it, and shall be glad to recommend it.

See very favourable mention and articles written, highly commending the "Grundys" system, in the "Lancet" of July 14, 1894, "British Medical Journal" of October, 1895, and "Medical Times" of November, 1895.

BOOK OF TESTIMONIALS FORWARDED GRATIS ON APPLICATION TO—

## JOHN GRUNDY, HEATING APPARATUS MANUFACTURER,

Chief Office: 30, DUNCAN TERRACE, CITY ROAD, LONDON, N.,  
Manufacturer and Patentee of

"Helios" and "Sirius" SLOW COMBUSTION  
SMOKE CONSUMING Grates,

"Hestia" Slow-Combustion and Ventilating Stoves.

The "Grundys" Patent Central Heating Apparatus,  
SPECIALLY SUITABLE FOR WARMING AND VENTILATING

Churches, Chapels, Schools, Hospitals, Asylums, Halls, Barracks, Workhouses, Infirmarys,  
Workshops, Dwellings, Showrooms, &c., &c.

Schemes and Estimates Submitted on Receipt of Particulars.

CATALOGUES POST FREE.

306 SEC. G—HOT WATER, WARMING, LIGHTING, & VENTILATING.

## R. HALLIDAY & CO.,

HORTICULTURAL BUILDERS AND  
HOT WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Hot Water Heating Apparatus, with thoroughly reliable Boilers, erected and guaranteed.

For GREENHOUSES.

RIVETTED STEEL CONICAL BOILER.

For CHURCHES

CONSERVATORIES, MANSIONS,

SCHOOLS, HALLS, HOTELS,

and PUBLIC BUILDINGS.

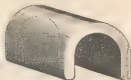
CLUBS, WAREHOUSES,

OFFICES and SHOPS.

TUBULAR SADDLE BOILER.



WROUGHT WELDED  
SADDLE BOILER, No. 19.  
With Waterway Check Bridge.



PLANS AND ESTIMATES FREE.

Hothouses and Garden Frames of every description, constructed on R. HALLIDAY & CO'S. improved principle.  
PRICES ON APPLICATION.

## LEA, SON & CO.,

Pangbourne Works, Shrewsbury,

Electrical and General Engineers,

AND

Art Metal Workers.

Speciality:

ARTISTIC ELECTRIC LIGHT FITTINGS.

*New Illustrated Folio of Designs on  
Application.*

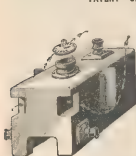




# HARTLEY & SUGDEN, LTD., HALIFAX.

## Heating Apparatus, Boilers, & Appliances.

PATENT "CLIMAX" BOILER.

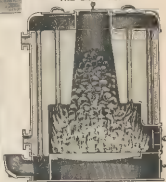


CROSS SECTION.

NEW INDEPENDENT  
"CHATSWORTH" BOILER.



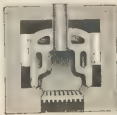
"THE LION" BOILER.



"IMPERIAL" BOILER.



ELEVATION.



SECTION.

INDEPENDENT DOME TOP BOILERS.

The new Pattern of Waterway Bottom Dome Top Boiler is a decided improvement on all previous patterns, as it leaves no space over the archway where the Boiler may be injuriously affected by deposition of sediment.

CATALOGUES FREE ON APPLICATION.

Boilers for Low Pressure Hot Water or Steam Heating to suit any situation or purpose.



# JOHN GRUNDY'S

PATENT

## "HESTIA," SLOW COMBUSTION AND VENTILATING STOVES.

### ADVANTAGES.

- 1—Powerful and Rapid heating with small size of Stove
- 2.—Perfect and simple regulation of the warmth
- 3—The fire can be kept burning for a long time all night or a week, or for any length of time desired
- 4—Very easy Service—all cleaning being dispensed with

*No complicated Fixing.  
Cannot get out of Order.  
None of the Drawbacks of  
Hot-water Heating.*

*No Skilled Attendant  
required.*

Highly commended for Isolation Hospitals, Entrance Halls, Schools, Lecture, Concert and Mission Rooms, Workshops, Clubs, Chapels, and moderate sized Dwelling Houses.

ESTIMATES SUBMITTED FREE OF CHARGE.

**PRICES, ACCORDING TO FINISH AND HEATING CAPACITY, From £1 18s.**

### THE TEMPERATURE IS EQUAL

throughout the room heated by a "Hestia" Stove. A thermometer at the furthest end of the room does not differ more than 1—2 degrees from one placed in the immediate vicinity of the Stove.

This most desirable effect is brought about in the following manner—The casing which surrounds the heating cylinder is open at the top, so that the air which enters cold at the bottom is rapidly warmed and rises, whereby a constant stream of warm air is circulated in the whole room.

### SMALL QUANTITY OF FUEL REQUIRED.

This is accounted for by the simple and effective regulating device, which only allows so much fuel to be burned as is absolutely necessary to maintain an agreeable temperature. The smallest fire which can be maintained in the Stove requires from a quarter of a pound to half a pound of coal per hour, regardless of the size of the Stove, and the largest quantity of fuel which is consumed, is a small one amounting from two to three pounds per hour. Numerous experiments with my "Hestia" Stove have shown that no ordinary room of 300 cubic feet, and not much exposed, can be heated for Six Months continuously, by day and night with Seven Cwt. of Coal or Coke. The larger sizes of my "Hestia" Stoves need only be supplied with fuel once in 12 to 16 hours. If coke or anthracite coal is used the fire can be maintained the whole winter, provided fresh fuel is added morning and night.

### COMPLETE UTILIZATION OF THE FUEL.

All fuel is let from the top, and combustion proceeds downwards, so that smoke and gases must pass through the fire, and are thus consumed before reaching the chimney, and cannot, therefore be detrimental to health. As the fire is drawn downward it gives out on the top so that the Stove has several middle ranges which take a visible on the top smoking gradually down during the combustion. The combustion is complete, and all surplus air is exhausted by means of the regulating door and thus brings with it the nearly perfect consumption of smoke. A further proof of the complete utilization of the fuel is the fact of the smoke pipe being next to cold.

### THE "HESTIA" STOVE WITH EVAPORATING PAN.

In many cases where iron stoves are used for heating purposes—though such complaints are confounded in the warming of apartments—the dryness of the air is a source of complaint. In order to completely remove this the "Hestia" Stove has a water basin very hot, but cannot be made to boil. The reservoir is supplied by a tube opening upwards, projecting from the side of the casing, so that it can be easily filled without removing the cover of the casing.

### ADVANTAGES.

- 5—No Radiating Heat the Stove may be placed close to a wall or near furniture without injury to same. No danger of fire to person or property.
- 6.—No Dust or Ashes in the room
- 7—Excellent Ventilation, by improvement in ordinary smoke pipe
- 8—Economy of Fuel—35 to 45 per cent., as compared with other stoves. The outlay for one Stove is saved in one winter by the economy in coals or coke.

*Uniform Temperature.  
Under Easy Control.  
Perfect Ventilation and  
Distribution of Pure Warmed  
Air.*



Chief Office: 30, DUNCAN TERRACE, CITY RD., LONDON, N.  
West End Branch: 57, WIGMORE STREET, LONDON, W.



TRADE MARK FOR  
"HELIOS" GRATES.

**ADVANTAGES.**

—O—

Perfect

Combustion

—O—

Great Economy

of Fuel.

—O—

No Smoke

or Dust in

the Room.

# JOHN GRUNDY'S

## Patent "Helios" Smoke-Consuming Grate,

With Automatic Feeding Action,



TRADE MARK FOR  
"HESTIA" STOVES.

**ADVANTAGES.**

—O—

Agreeable,

Constant, and

Controllable

Warmth.

—O—

Easy to

Fix,

—O—

Easy to

Light.

—O—

Easy to

Regulate.

Will Heat 9,000 Cubic Feet

Height—37½ in.

Width—35 in.

Depth—14½ in.

About 70° to 130° Fahr., or 140° to 200° Fahr., with the outside temperature at freezing.

**COST NOT EXCEEDING 4d. A DAY.**

### METHOD OF HEATING.

The heat is diffused partly by radiation and partly by warmed air. The fire heats by radiation through the mica window, and the pipe system warms the air, which enters cold at the gratings at the bottom of the front, rendering it back into the room in a heated condition through the top perforations of the front.

### REGULATING COMBUSTION.

By pushing the regulation door as far to the right as possible, the maximum combustion is obtained, which, by moving the door more or less to the left, can be regulated so as to yield the exact degree of heat required. If the regulating door is quite closed, the fire merely smoulders, and burns in that condition about 70 lbs. of coal per hour.

### ECONOMY IN FUEL AND PERFECT CONSUMPTION OF SMOKE.

The grate is guaranteed by a large area of heating surface and perfect control of combustion, the latter by injection of pre-heated air on the smoke arising from the fuel, thereby turning it into a gas and burning it as such. Perfect consumption of smoke is most important from a hygienic point of view.

PRICES:—From 24 Os. 6d. according to Finish.

Mantelpieces in Wood, Iron, or Marble supplied to order.

ILLUSTRATED DESCRIPTIVE CATALOGUE POST FREE ON APPLICATION.

Chief Office—30, DUNCAN TERRACE, CITY RD., LONDON, N. West-End Branch—57, WIGMORE ST., CAVENDISH SQ., W.

# VENTILATION.

**IMPROVED MICA OUTLET VENTILATORS.**  
For the discharge of Heated and Vitrated  
Air from Rooms into the Smoke Flue



No. 2 Pattern, Rd No. 6.  
Size of Front, 11 x 5, 11 x 7, 11 x 9,  
12 x 12, 16 x 12.

**HAYWARD'S SILK FLAP OUTLET  
VENTILATORS.**  
For Prevention of Dows-Draughts in Air-  
Extracting Shaft



9 x 19 x 6, 9 x 9, 12 1/2 by 9, size of Box.

**"SAFFORD" RADIATORS.**  
The only Right and Left Barrow Wipple  
Connection

**NO BOLTS. NO PACKING. NO LEAKS.**  
Tested to 120 lbs. pressure.  
**OVER 200 SIZES IN STOCK**



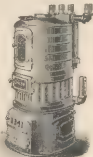
**HAYWARD'S EXTRA STRONG CAST-  
IRON INLET TUBES.**



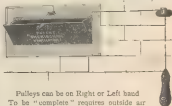
9 x 3 and 9 x 4,  
12 x 4 and 12 x 5

**"DAISY" HOT WATER  
BOILER.**

Being independent, requires no  
Bricklayer to fix same.



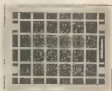
**HAYWARD'S "SHERINGHAM" INLET VENTILATOR.**  
For the introduction of Fresh Air through an  
External Wall without a draught.



Pulleys can be on Right or Left hand  
To be "complete" requires outside air  
brick.

Size of Front, 12 1/2 x 5 1/2, 11 1/2 x 8 1/2, 16 x 8 1/2, 19 x 14.

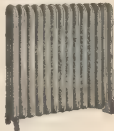
**HAYWARD'S UNIVERSAL VENETIAN VENTILATORS,  
INLET OR OUTLET.**



Plain Lattice, Pattern B.  
Size of Front, 10 x 8, 12 x 10, 14 x 12, 16 x 14.

**"SAFFORD" RADIATORS.**

The "Safford" Radiators are superior in  
construction to any other kind, with large  
unobstructed water way.



CATALOGUES AND FULL LISTS SENT ON APPLICATION.

**HAYWARD BROTHERS & ECKSTEIN,** VENTILATOR  
MANUFACTURERS.  
UNION STREET, BOROUGH, LONDON, S.E.

Radiators for Hot Water & Steam  
Ventilating Radiators.

**J. JEFFREYS,**

Lathe Faced Joints for Pipes,  
Fresh Air & Exhaust Ventilators.

**Specialist in Heating and Ventilation,  
and Consulting Engineer,**

Works— **11, OLD QUEEN ST., WESTMINSTER,** Westminster,  
Gt. Smith St., Late GREAT QUEEN ST., WESTMINSTER, S.W.



**EXHAUST & BLOWING FAN.**  
For "Pumps" or Exhaust  
Ventilation as being used  
at the Admiralty Extension  
Buildings.

**STEAM  
RADIATORS,**  
MADE IN 50  
SIZES.



**IMPROVED INLET  
VENTILATOR**



**PEDESTAL VENTI-  
LATING RADIATOR**  
"A." PATENT

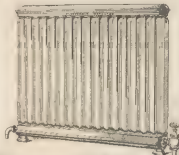
Roman Catholic Church, Bow; Roman Catholic Church, Petworth; Hale's Memorial Church, Richmond; Church House, Hendon; Stafford County Technical School; High Green Manor, Northumberland; Graffham Grange, Bramley; Town Hall, Hastings; South Stoneham House; Blackheath Concert Hall; Union Bank of Australia, Cornhill, E.C.; Scottish Widows' Fund Society, Cornhill, E.C.; London and South Western Bank, Rosebery Avenue; London and South Western Bank, Clapham Road.

**Heating by High and Low Pressure Steam  
and Hot Water.**

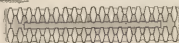
**Warm Air, Drying, Disinfecting, and  
Cooking Apparatus.**



APPROXIMATE  
Vertical Radiator



PLAN OF RADIATOR



PLAN OF VENTILATING RADIATOR.

This Radiator will pass from 5 to 10 times the quantity of Warmed Fresh Air, in a given time, of the ordinary Ventilating Radiator with Internal Tubes. The Etched Portion shows Air Space.

RADIATORS for STEAM AND HOT WATER HEATING are now generally adopted in all streets and houses in preference to the old Hot Water buildings, as they occupy much less room, and use less water, and are also better adapted for hot water heating.

**SCHEMES AND ESTIMATES FREE.**

AMONGST WORKS AT PRESENT IN HAND ARE—

Admiralty Extension Buildings; Public Record Office, Chancery Lane; Clergy Orphan School, Bushey; Victoria Institute, Worcester; Mr. Yarrow's Convalescent Home, Broadstairs; Niagara Hall, Westminster; Mrs. Buckmaster's Convalescent Home, Broadstairs; Theatre Royal, Brighton; Chatterfield Church; Milland Church; New Hyde Church; Catholic Asbestos Church, Westminster;



**ELECTRIC FAN & MOTOR.**  
For Exhaust Ventilation  
for Dairs, City Offices,  
Resaurants Smoking and  
Billiard Rooms, &c.

**HOT WATER  
RADIATORS**

APPROXIMATE  
Vertical Radiator



**IMPROVED SILK FLAP  
OUTLET VENTILATOR.**

Ventilators always Open so  
open against own Drafts,  
and Absolutely Noiseless.



**ANGLE RADIATOR.**



Telegraphic Address—"HYDRASTIC, LONDON."

# HENDRY & PATTISSON,

(SUCCESSORS to D. O. BOYD),

Office and Works—4, MARLBOROUGH MEWS, HILLS PLACE, OXFORD STREET, LONDON, W.

Sole Manufacturers of

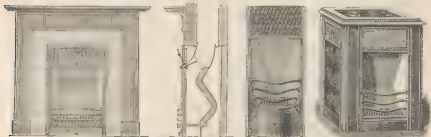
## LANDER'S PATENT WARM-AIR GRATES AND STOVES.

THE LATEST, MOST POWERFUL, ECONOMICAL AND HYGIENIC GRATE IN THE MARKET.

### SPECIAL POINTS CLAIMED.

1. The shape of the fire is such that no coal is wasted, because the fire is smaller at the base than at the top.
2. Above fire space the lump is thrown forward to get the best results from direct radiation, and then back to prevent choking the chimney throat.
3. A Self balancing Valve in chimney throat is provided to prevent the heat escaping into the flue.
4. A Self balancing Door under fire is fitted.
5. These Grates can burn twelve hours without attention.

NOTE—The Patent Self balancing Valve can be fitted to most of the Grates now in use, at a small cost. Architects would oblige by sending for full particulars.



## HENDRY & PATTISSON,

4, Marlborough Mews, Hills Place, Oxford Street, LONDON, W.

AWARDED GOLD MEDAL, INTERNATIONAL EXHIBITION, CALCUTTA, 1884.

Awarded 81 Gold and Silver Medals and Diplomas, Seventy Thousand Testimonials and References for Successful Application

ESTABLISHED  
1858.

NO GOODS GENUINE WITHOUT



THE TRADE MARK AFFIXED.



New Patent Non-Friction Air, Gas, and Steam Valve, for Buildings and Works.



New Patent Vertical Air, Gas, and Steam Valve, for Buildings and Works.



James Howorth's New Patent Air, Gas, and Steam Valve, for Buildings and Works.



James Howorth's New Patent Air, Gas, and Steam Valve, for Buildings and Works.



James Howorth's New Patent Air, Gas, and Steam Valve, for Buildings and Works.

JAMES HOWORTH & Co. Civil, Eng. and Vent. Eng. Victoria Works, Farnworth, nr. Bolton, and Manchester, England.





# VENTILATION AND WARMING.

Mr. KEY is the **ORIGINAL DESIGNER** of the methods which have made the

## PLENUM SYSTEM

not only practicable but popular, and although no doubt "imitation is the sincerest flattery," no installation has ever been satisfactory—the air being tested by chemical analysis—unless designed by the original inventor.

### TESTIMONIAL BY FIRM OF ARCHITECTS.

"The Heating and Ventilating is as near perfect as ever can be expected to be attained. The day was foggy, yet inside everything was clear and bright, and the air, instead of having a depressing effect, was actually exhilarating, and draughts there were none. We went to the office and came back comfortably."

IS THE MOST PERFECT AND RELIABLE SYSTEM OF

## VENTILATION AND HEATING FOR

Schools, and every Class of Building.

The air of Class-rooms renewed every five minutes in all weathers, positively and without draughts. No foul air anywhere, for a school of 1,000, two million cubic feet of air, propelled into it every hour. All buildings ventilated and warmed mechanically. No failures or breakdowns. Estimates on Shortest Notice. Low working expenses.

See K. & P. WARD, & CO., M.P. I would call attention to the fact that not only has the process adopted by him embodied in the form of a patent, but that testimony was given to its success on a large scale.

Sir Douglas Galt, K.C.B., F.R.S., Vice-President of Society of Arts. "The system is deserving of consideration for the ventilation of the Houses of Parliament."

Lord Kelvin, LL.D., D.C.L., F.R.S., St. Vincent Infirmary.

"The ventilation is very complete, and may well serve as a model for hospitals and the Houses of Parliament."

MATTHEWS and MAXWELL, Architects at Aberdeen to H.M. the Queen's University Schools Hotel. "We have found a very high opinion of your qualifications and we act as a consulting engineer in warming and ventilating. Your system is the most perfect mode of warming and ventilating that we have become acquainted with."

Air which has been screened, washed, warmed, and humidified, is propelled by mechanical means into every description of Buildings; renewing the air of rooms up to fifteen times per hour, in all weathers, according to the occupation, and without draughts.

WILLIAM KEY, VENTILATING & HEATING ENGINEER, CENTRAL CHAMBERS, 109, HOPE STREET, GLASGOW.

316 SEC. G—HOT WATER, WARMING, LIGHTING, & VENTILATING.



By Her Majesty's  
Royal Letters Patent.



By  
American Letters Patent.

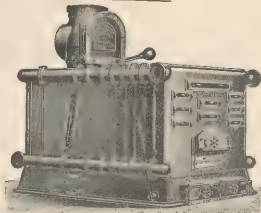
**KEITH'S PATENT SECTIONAL BOILERS,**  
"A" Type; "C" Type; "E" Type; "VIADUCT"; "CHALLENGE"; "PYTHON";  
**FOR HOT WATER HEATING.**

Require no building work round them, are entirely Water jacketted, and Heat, respectively, from 50 feet up to 20,000 feet of 4 inch Pipe, or Square Feet of Radiating Surface. Many Thousands are in use all over the World, and the Boilers are unrivalled in power, efficiency, and economy.



**KEITH'S SPECIALTIES, IN THIS "AGE OF FIRSTS," "STAND FIRST."**

This BOILER will HEAT about  
FOUR MILES of 4-inch. Pipe.



These two Engravings—"Illustrate the most powerful form of Boiler that has yet been made for Hot-Water"  
"Circulation,"—Extract from Hood, on "Warming by Hot Water," New Edition, 1897.

**JAMES KEITH, C.E. (Assoc. M.Inst.C.E.), Gas, Hydraulic, Heating & Ventilating Engineer Expert,**  
LONDON—27, FARRINGTON AVENUE, and 29, FARRINGTON STREET, E.C.  
(Corner, Farringdon Avenue and Farringdon St.), Close to Holborn Viaduct. Works—ARBROATH.  
**AWARDED TWENTY PRIZE MEDALS AT INTERNATIONAL EXHIBITIONS.**

# KEITH'S PATENT RADIATORS,

"Universal," "Aiolian," and Others,  
For STEAM AND HOT-WATER HEATING,

Either made in One Piece without Joints, or formed of Sections machined and Metal to Metal Jointed, without Rubber or Packing or Bolts of any kind, meet all the requirements of Heating, Sanitation, and Ventilation.

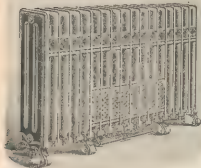


Made various heights, from 16 inches up to 46 inches. CIRCULAR, CURVED, SINGLE, DOUBLE, and Any Length.



PLAIN OR ORNAMENTAL.

Face Ornamentation can be slipped in or out between Sections of "Aiolian" Radiators as may be desired.



**JAMES KEITH, C.E.,** Consulting Engineer, Specialist, Patentee, **LONDON & ARBROATH**  
ORIGINAL INVENTOR & PATENTEE OF SECTIONAL RADIATORS IN EUROPE FOR HEATING & VENTILATION.  
OVER THIRTY YEARS' EXPERIENCE.

**KILLICK & COCHRAN,**  
HEATING, VENTILATING AND DOMESTIC ENGINEERS,  
IRONFOUNDERS, &c., &c.,  
**51 & 53, SEEL STREET, LIVERPOOL.**

TELEPHONE—439.

Telegram—"IDEAL, LIVERPOOL."

New Combined Heating and Ventilating **RADIATOR** for Hot Water or Steam.

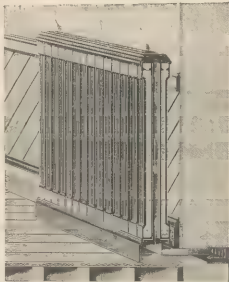
*Perfect Heater  
and  
Ventilator.*

*No Cases or  
Screens  
Required.  
Ornamental in  
Appearance.*

*Applicable to  
any  
Building.*

*Admits Warm  
Fresh Air  
in Winter and  
Cool Air  
in Summer  
without  
Draughts.*

*Made in  
Different Sizes  
to suit  
Various Positions.*



*Specially  
Suitable for  
Churches  
and Chapels,  
Mission Rooms,  
Lecture Halls,  
and Schools.  
Public Institutions,  
Mansions,  
Private Residences,  
&c., &c.*

*Occupies little  
space, but has a  
Large Radiating  
Surface,  
and Passage  
for Fresh Air  
through  
Centre of each Tube.*

*Contains little  
Water,  
thus ensuring  
Rapid  
Cooling  
with  
Saving of Fuel.*

Prices from 10/6 per Tube, Heating Surface from 13. square ft. to 24 square ft. per lineal foot.

Makers of Specialities in Heating Apparatus for all kinds of Public Buildings, Churches, Mansions, &c., by Hot-Water (either large or small pipe systems) and Steam.

New Steam Hot-Water Generators for Heating, Hot Water Service, Tea Making, &c.



*Boilers*

# Kitchen & Co., Ltd.

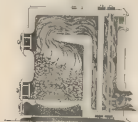
Telegrams: "WELDED, DERBY."  
Nat. Telephone 106.

**DERBY.**

London Office:  
15, QUEENHITHE, E.C.

## THE PATENT "SEVERN" BOILER. A COMPLETE SUCCESS.

HEATS WELL. SAVES FUEL.  
CIRCULATES QUICKLY.  
SAVES TIME. SAVES SPACE.  
STANDS HEAVY PRESSURES.



### PRICE LIST.

THE  
MOST POWERFUL  
BOILER  
ON THE MARKET.



ELEVATION.

| No. | Capacity<br>Gals. | Working<br>Pressure<br>lb. | Price<br>£ s. d. | Notes  |
|-----|-------------------|----------------------------|------------------|--------|
| 1   | 10                | 100                        | 10 0 0           | Box    |
| 2   | 20                | 100                        | 15 0 0           | Box    |
| 3   | 30                | 100                        | 20 0 0           | Box    |
| 4   | 40                | 100                        | 25 0 0           | Boxman |
| 5   | 50                | 100                        | 30 0 0           | Boxman |
| 6   | 60                | 100                        | 35 0 0           | Boxman |
| 7   | 70                | 100                        | 40 0 0           | Boxman |
| 8   | 80                | 100                        | 45 0 0           | Boxman |
| 9   | 90                | 100                        | 50 0 0           | Boxman |
| 10  | 100               | 100                        | 55 0 0           | Boxman |
| 11  | 110               | 100                        | 60 0 0           | Boxman |
| 12  | 120               | 100                        | 65 0 0           | Boxman |
| 13  | 130               | 100                        | 70 0 0           | Boxman |
| 14  | 140               | 100                        | 75 0 0           | Boxman |
| 15  | 150               | 100                        | 80 0 0           | Boxman |

THE MOST  
ECONOMICAL  
BOILER  
YET INVENTED.

EQUALLY SUCCESSFUL WHEN  
ARRANGED FOR  
LOW PRESSURE STEAM  
HEATING.

SEND FOR OUR CATALOGUE,

Containing Simple and Complete Telegraphic Code.

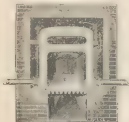
Section devoted to Specialities of an interesting character.

WELL PRINTED, WELL BOUND, WELL ARRANGED, IN FACT,  
THE HANDIEST LITTLE BOOK YET OUT.

320 SEC. G—HOT WATER, WARMING, LIGHTING, & VENTILATING.

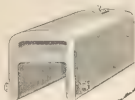
Established 1745.

# HEATING ENGINEERS.



IMPROVED "MILLGATE" BOILER,

The most Economical Boiler in the Trade.



LOW PRESSURE,  
HOT-WATER and STEAM  
APPARATUS,  
HOT-WATER  
SUPPLY.

Telegrams—

"LEBROYLE."

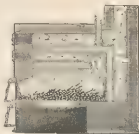
Telephones—

National, 891.

New, 648.

**LEECH BROS. & Co.**

VENTILATING,  
HOT-WATER AND  
STEAM RADIATORS.



SCREWED JOINTS. NO RUBBER, or  
PERISHABLE MATERIAL USED.

IMPROVED "MILLGATE"  
BOILER.

Plans and Estimates submitted on application.

CANNON STREET IRON WORKS and 20 and 22, OLD MILLGATE,  
**MANCHESTER.**

TELEGRAMS "LLOYDS"  
BIRMINGHAM  
TRADE MARK  
L & L

TELEPHONE NUMBER  
282  
TRADE MARK  
L & L

**LLOYD & LLOYD**

ALBION TUBE WORKS,  
BIRMINGHAM,  
AND  
COOMBS WOOD TUBE WORKS, HALESOWEN.  
WAREHOUSES

LONDON, MANCHESTER, AND LIVERPOOL.  
LARGE STOCK OF BOILER TUBES KEPT AT CARDIFF.

**WROUGHT IRON WATER TUBES,**

Black or Galvanized, of High-class Quality, and tested by  
Hydraulic Pressure.

**PERKINS' HOT WATER TUBES,**

For the Small Bore High Pressure Heating System, Furnace  
Coils, and all Accessories for same.

Tested to 4,000 lbs. pressure per square inch.

**HYDRAULIC TUBES & FITTINGS,**

For Lift and Ram Purposes.

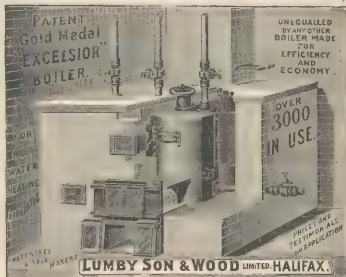
**THE SOCKET OF EVERY TUBE  
AND EVERY FITTING IS  
STAMPED WITH THE WELL-  
KNOWN "L & L" TRADE MARK,**

which should always be specified.

LAPWELDED WROUGHT IRON AND STEEL TUBES  
FOR MARINE, LOCOMOTIVE, & STATIONARY BOILERS.  
Wrought Iron Tubes & Fittings for Gas, Steam, and Water.  
Screwed or Flanged, about 2000000 feet always in stock.  
OIL LINE PIPES... SPECIAL LIGHT LAPWELDED FLANGE TUBES.  
**COILS** OF ALL DESCRIPTIONS FOR HEATING AND  
OTHER PURPOSES.

**LUMBY, SON & WOOD,**  
LIMITED,  
**WEST GROVE BOILER & SAFE WORKS,**  
**HALIFAX, ENGLAND.**  
**PATENT GOLD MEDAL EXCELSIOR BOILER**

CHEAPER THAN ANY OTHER  
PATENT BOILER.



CHEAPER THAN ANY OTHER  
PATENT BOILER.

**Not one Failure in Efficiency & Economy.**

*SAVING IN FUEL 15 to 20 per cent.*

**50 PER CENT. LESS ATTENTION THAN ANY OTHER BOILERS.**

*Write for Prices and Testimonials before specifying any other Boiler.*



ESTABLISHED  
1850

By Special  
Appointment to



Her Majesty  
the Queen.

Telegraphic Address:  
"GLASSVENTS."  
LONDON.

# MOORE'S PATENT IMPROVED GLASS VENTILATORS, Sekforde Works, St. James's Walk, Clerkenwell Green, London, E.C.

**MOORE'S**  
PATENT AND IMPROVED  
**Louvre Ventilators**  
are strongly recommended to be the simplest and best means of Ventilation. All Ventilators are adapted to houses of every size.  
**MOORE'S PATENT**  
WITH QUALITY.  
LONDON.

Attention is particularly called to the Economy in Size and Nature of House, and the fact that also to proportionate to most forms of houses.  
**MOORE'S**  
Improved Glass Ventilators.  
are perfectly adapted to the Economy in Size and Nature of House, and the fact that also to proportionate to most forms of houses.  
**LATEST PATENT**  
ON APPLICATION

**MOORE'S**  
IMPROVED  
**CIRCULAR GLASS VENTILATOR**

## MOORE'S PATENT IMPROVED GLASS LOUVRE VENTILATORS

The advantages derivable from these Ventilators are:—They give circulation of air, and destruction of light, simplicity of action, and facility of repair, at any time, by means of a single screw, and are fitted together with screws (enabling any part to be disconnected if desired), and are readily fixed to most forms of houses.

Important improvements have been made in both 1st and 2nd qualities, which make the Ventilators durable and certain in their action, as shown by the following description:—

- No. 1 **QUALITY** (for Strength and Durability).—Brass Frames, Cast Brass Levers, Improved Metal Springs (for closing), Polished Plate Glass, Edges Rounded and Polished.
- No. 2 **QUALITY**.—Zinc Frames, Cast Brass Levers, Improved Metal Springs (for closing), Patent Plate Glass, Edges Rough Ground.
- No. 3 **QUALITY** (for temporary use only).—Zinc Frames, Zinc Levers, India Rubber Springs, Sheet Glass.

## MOORE'S IMPROVED CIRCULAR GLASS VENTILATORS, ALSO SLIDING GLASS VENTILATORS.

These Ventilators are manufactured in Polished Plate of any size, either Plain or Ornamental; also in 32 oz. and 28 oz. Sheet Glass, and are mounted in a superior manner, so that removal of Glass from a Sash by sending it to the Works, and can be completed *the same day by previous arrangement*. The risk in cutting these Ventilators is taken by the Manufacturers. The Circles are made from 4 to 10 inches in Diameter, according to size of square, larger sizes extra.

In 1 oz. sheet Plate Ventilators, Joints with Lead and Rubber or Glass required, and the Height and Width in Relation must be distinctly stated, also, if the Circles are desired in any particular position, such should likewise be mentioned, as the Manufacturers will not be answerable for errors in same if such are omitted.

For Circular Ventilators of various sizes, where Lead, 1 Light is used the Ventilators can be made to correspond with the requirements of window.

### MOORE'S PATENT IMPROVED GLASS LOUVRE VENTILATORS.

No. 1 Quality, Brass Frames, Cast Brass Levers &c., Polished Plate Glass Levers, Edges Rounded and Polished.

| Size in ft. x in. | Do. in ft. x in. | Do. in ft. x in. | Do. in ft. x in. |
|-------------------|------------------|------------------|------------------|
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |

For other qualities, see detailed tariff upon application to the Manufacturers.  
(For these "Louvre" Ventilators, "Right" measure is required.)

### MOORE'S IMPROVED CIRCULAR GLASS VENTILATORS.

From 4 to 10 inches diameter, according to size of square, including glass.

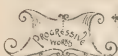
| Size in ft. x in. | Do. in ft. x in. | Do. in ft. x in. | Do. in ft. x in. |
|-------------------|------------------|------------------|------------------|
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
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| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |
| 12 x 12           | 12 x 12          | 12 x 12          | 12 x 12          |

For these "Circular" Ventilators, "Right" measure is required.)

Window Casements in Copper, Gun Metal, Brass, and Iron.

**JOSIAH MOORE & SONS,**

Sekforde Works, St. James's Walk, Clerkenwell Green, London, E.C.

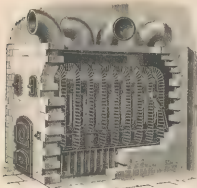


Charles Steel, Esq.  
GLASGOW.  
LONDON OFFICE,  
3 Bucklersbury E.C.

# MURDOCH & CAMERON.

BATH-CONTRACTORS.  
METAL WORKERS & ART  
HEATING ENGINEERS.





## MUSGRAVE'S PATENT WARM-AIR HEATING AND VENTILATING APPARATUS.

Thoroughly efficient & very Economical.

Extensively used in Churches, Schools, Public Halls,  
Private Mansions and Turkish Baths.

"The 5 Warm-Air Apparatus of your manufacture  
give unqualified satisfaction."—Rev. W. R. Finch,  
Duke of Northumberland Estate Schools.

**SUCCESS IN EVERY CASE GUARANTEED.**

*Illustrated Catalogues and Estimates free.*

## MUSGRAVE'S PATENT WARMING & VENTILATING "ULSTER" STOVES.

MUSGRAVE'S HOT WATER HEATING APPARATUS.

On the "Small Pipe" High Pressure, and "Large Pipe" Low Pressure Systems.

Success in every case guaranteed.

ESTIMATES FREE.

**MUSGRAVE & CO., LIMITED, 97, NEW BOND ST., LONDON, W.**

*Ann Street Iron Works, Belfast. 40, Deansgate, Manchester. 240, Rue de Rivoli, Paris.*

## FREDERIC W. BARKER,

(A.M.Inst.M.E.)

Ventilating, Warming, and Consulting Engineer.



Designs Registered No. 140,958

By Her Majesty's



Royal Letters Patent.

**BARKER'S NEWEST PATENT AUTOMATIC AIR-EXTRACTING  
VENTILATOR & IMPROVED SYSTEM OF VENTILATION.**

**The "Small Bore Hydraulic" Heating Apparatus.  
Also Improved Low Pressure, & Radiators.**

ESTIMATES, PRICE LISTS, AND PARTICULARS FREE

**33A, BROADWAY, HAMMERSMITH, LONDON, W.**



Telegram: "Barker Broadway, Hammersmith."

*Architects would oblige by mentioning the source of their  
information when communicating with the Firms represented in  
"The Compendium."*

# VENTILATION.

---

AUTOMATIC, POSITIVE AND MECHANICAL.

---

## THE NORTHERN VENTILATING COMPANY, *28, Deansgate, MANCHESTER.*

---

**Tobin Tubes and Wall Panel Air Inlets.  
Muffled Mica Flap Exhaust Ventilators.  
Exhaust Ventilators of Various Types.  
The Positive Inducer for Calm Weather.**

---

Estimates Given for

DOMESTIC VENTILATION,  
OFFICES AND WAREHOUSES,  
CLUBS, HOTELS AND BILLIARD ROOMS,  
SCHOOLS,  
CHAPELS,  
CHURCHES,  
PUBLIC BUILDINGS.

~~~~~  
INFORMATION AND CATALOGUES ON APPLICATION.

ESTABLISHED 1848.

HEATING BUILDINGS by HOT WATER or STEAM.

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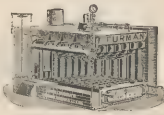
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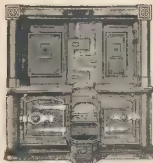
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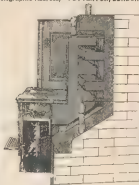
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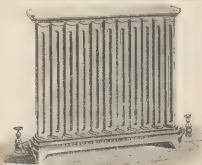
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14	72	4	16	0	12	1	6	0	0
15	18	10	0	0	0	0	0	0	0
16	24	13	10	0	13	8	12	1	0
17	30	17	5	10	10	0	15	1	0
18	36	20	12	0	16	0	18	5	16
24	48	28	12	0	26	8	22	4	0

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12 in.	1/6	24 in.	1/3
18 in.	1/4	30 in.	1/2
24 in.	5/6	36 in.	1 1/4
30 in.	1 1/6	42 in.	1 3/4
36 in.	1 5/6	48 in.	2 1/4
42 in.	2 1/6	54 in.	2 3/4
48 in.	2 5/6	60 in.	3 1/4
54 in.	3 1/6	66 in.	3 3/4
60 in.	3 5/6	72 in.	4 1/4
72 in.	4 5/6	84 in.	5 1/4
84 in.	5 5/6	96 in.	6 1/4
96 in.	6 5/6	108 in.	7 1/4
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DESIGN No. 96

DESIGNS.

Sunlights.

without the expenditure of a greater quantity of Gas than by the old methods of lighting

The heated fumes and products of combustion are then utilised and carried off along with the vitiated air through tubes fixed in the ceiling, and which should be connected with one of our "Exhaust Outlets or Turrets"



DESIGN No. 93.



DESIGN No. 80.



DESIGN No. 81.



DESIGN No. 78.

PRICES.

No. of Burners.	No. 79 & 80.	No. 76	No. 78	No. 77 & 81
	£ s d	£ s d.	£ s d.	£ s d
3 or 4	1 12 0	1 13 0	1 13 0	1 13 0
5	1 12 6	1 13 6	1 13 6	1 13 6
6	1 12 6	1 13 6	1 13 6	1 13 6
10	1 15 6	1 15 6	1 15 6	1 15 6
12	1 15 6	1 15 6	1 15 6	1 15 6
16	1 15 6	1 15 6	1 15 6	1 15 6
20	1 15 6	1 15 6	1 15 6	1 15 6
24	1 15 6	1 15 6	1 15 6	1 15 6
28	1 15 6	1 15 6	1 15 6	1 15 6
32	1 15 6	1 15 6	1 15 6	1 15 6

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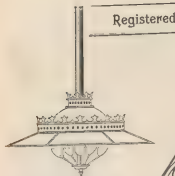
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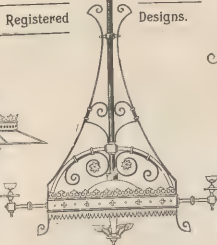
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4	£ 4 0	£ 4 0	£ 4 0	£ 4 0
5	£ 4 0	£ 4 0	£ 4 0	£ 4 0
6	£ 4 0	£ 4 0	£ 4 0	£ 4 0
7	£ 4 0	£ 4 0	£ 4 0	£ 4 0
8	£ 4 0	£ 4 0	£ 4 0	£ 4 0
9	£ 4 0	£ 4 0	£ 4 0	£ 4 0
10	£ 4 0	£ 4 0	£ 4 0	£ 4 0
11	£ 4 0	£ 4 0	£ 4 0	£ 4 0
12	£ 4 0	£ 4 0	£ 4 0	£ 4 0
13	£ 4 0	£ 4 0	£ 4 0	£ 4 0
14	£ 4 0	£ 4 0	£ 4 0	£ 4 0
15	£ 4 0	£ 4 0	£ 4 0	£ 4 0
16	£ 4 0	£ 4 0	£ 4 0	£ 4 0
17	£ 4 0	£ 4 0	£ 4 0	£ 4 0
18	£ 4 0	£ 4 0	£ 4 0	£ 4 0
19	£ 4 0	£ 4 0	£ 4 0	£ 4 0
20	£ 4 0	£ 4 0	£ 4 0	£ 4 0

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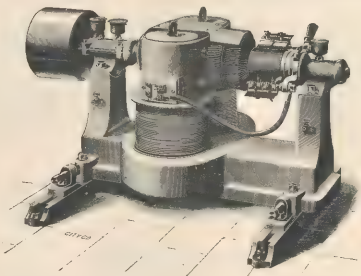
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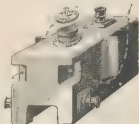


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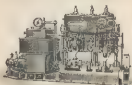
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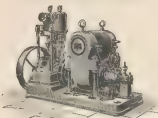
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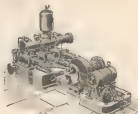
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Combined Air & Circulating Pumps,
Admiralty Pumps, Forced Draught and
Ventilating Fans, Gun Metal and Brass
Castings, Hydraulic Pumps & Machinery.

Complete Installations of Electric
Welding Plant, on the Bernardo and
other Patented Systems, for
Steel Foundries, Boiler Works, &c.



*By Special Appointment
to Her Majesty The Queen.*

JAMES SLATER & Co., HOLBORN ENGINEERING WORKS, 251, High Holborn, London, W.C.

Telegraphic Address—"TRIAD, LONDON."

Telephone, No. 2,715.



*By Special Appointment
to H.R.H. The Prince of Wales.*

COOL KITCHENS.

Patented Cooking Apparatus for working by Gas, Steam, or Water.

"Judged by the principles of their design, the quality of workmanship or materials, they are not only unequalled, but unapproached by any others in the market."

Special Features:

**LOWEST ANNUAL COST FOR WORKING, GREATEST COMFORT,
CONVENIENCE, AND FREEDOM FROM REPAIRS.**

Examples of our Apparatus are at work, and giving the greatest satisfaction, at the following, amongst other places, viz. :-

BUCKINGHAM PALACE
MARLBOROUGH HOUSE, for H.R.H. The
Prince of Wales.
ARUNDEL CASTLE, the Seat of His
Grace the Duke of Norfolk, E.M.
GROSVENOR HOUSE, the Residence of
His Grace the Duke of Westminster
PARR LANE, the Residence of the
Countess of Grosvenor.
THE COUNTESS OF ESSEX, 9, Belgrave Sq.
KARL OF ILMCHSTER
LORD HILLINGDEN, Camelford House.
SEE E. COLERIDGE
HAMER BARR, Esq., M.P., Burton-on-Trent
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ST. JOHN'S COLLEGE, Cambridge.
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MARSHALL THOMPSON'S HOTEL, London.
GRAND HOTEL, HAMBURG
ROYAL HOTEL, GUERESKY
GROSVENOR HOTEL, Chester.
QUEEN'S HOTEL, Chester
THE NATIONAL LIBERAL CLUB, London.
THE UNIVERSITY CLUB, Edinburgh.
SCOTTISH CONSERVATIVE CLUB, Edin-
burgh.
NEW CLUB, Edinburgh
LONDON AND NORTH WESTERN RAILWAY
Dining Saloon Cars.

GREAT EASTERN RAILWAY, Dining
Saloon Cars
Messrs. MARSHALL & SNEEDMORE,
London
Messrs. MAYLE & Co., London.
Messrs. HOWELL, JAMES & Co., London
Messrs. I. & R. MORLEY, London.
Messrs. RYLANDS & Son, London
Messrs. JONES BROTHERS, London.
Messrs. W. D. & H. O. WILLS, Bristol.
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London
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Messrs. PETER JONES & Co., London.
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LIGHTING by Gas or Electricity. WARMING by Water, Steam, or Air.

NOTE.—Our system of supplying the hot water for Baths, &c., as also for warming purposes by means of the exhaust steam usually wasted, is well worthy of attention as a source of great economy: we have carried it out in many of the above named places, and it gives the greatest satisfaction. Hot water when and where wanted, always ready in abundance.

General Engineering:

**HIGHEST QUALITY STEEL STEAM BOILERS AND ENGINES FOR
FACTORIES, ELECTRIC LIGHTING, &c.**

SPECIAL DESIGNED MACHINES for NEW MANUFACTURES. STEAM PUMPS of VARIOUS TYPES.

BRASS, GUNMETAL, & BRONZE FOUNDERS.

346 SEC. G—HOT WATER, WARMING, LIGHTING, & VENTILATING.

SHORLAND'S PATENT WARM AIR VENTILATING MANCHESTER GRATE, WITH IMPROVED PROJECTING BACK.



MADE IN EVERY SIZE
AND DESIGN.

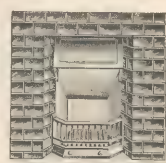
Largely in use in Schools,
Hospitals, Asylums, Banks,
Infirmeries, Private Houses, &c.,
throughout the Kingdom.

SUCCESS GUARANTEED.

**MANY THOUSANDS IN
USE.**

No. 131 Design. Patent Manchester Grate.

Size of Grate from inside of front to back	Height of Grate from inside of front to back	Price each
7	36	£4 7 0
8	40	5 7 0
9	44	6 7 0
10	48	7 7 0
11	52	8 7 0
12	56	9 7 0
13	60	10 7 0
14	64	11 7 0
15	68	12 7 0



No. 101 Design. Patent Manchester Grate
With Interior Front Tiled Cheeks Extra.

No. 1 Size. Best Finish Berlin Black	..	70 0 0
No. 2 Size. Ditto	..	7 0 0
No. 3 Size. Ditto	..	7 15 0
No. 3a Size. Ditto	..	7 0 0

No. 133 Design. Patent Manchester Grate
With Slatted Tiled Cheeks and Front as shown, or Brackets
of any colour, Best Finish with Tiles or Brackets, as shown.

No. 1 Size.	..	70 0 0
No. 2 Size.	..	7 0 0
No. 3 Size.	..	7 15 0
No. 3a Size.	..	7 0 0

New Illustrated Catalogue, Estimates, &c., Free on Application.

NOTE NEW ADDRESS—

E. H. SHORLAND & BROTHER, DRAKE ST. WORKS, STRET福德 RD., MANCHESTER.

TELEGRAPHIC ADDRESS—"WARMING, MANCHESTER."

NATIONAL TELEPHONE, No. 2188.

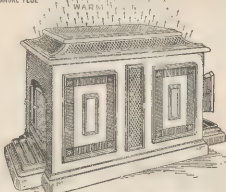
SHORLAND'S PATENT WARM AIR VENTILATING OPEN FIREPLACE MANCHESTER STOVE,

WITH ASCENDING OR DESCENDING SMOKE FLUE



No. 1 Design. PATENT MANCHESTER STOVE

Success Guaranteed.



No. 2 Design. DOUBLE FRONTED PATENT MANCHESTER STOVE.

Prices of Patent Manchester Stoves.

Shorland's Patent Cast-iron Open Fire with Warm Air Generating "Manchester Stove," with patent and complete chimney pipe, or with flue, descending or rising for descending, rock stand, with mounted stand, double door, cast-iron pan, &c., &c.

Size of room, 10 ft. 6 in. wide by 10 ft. 6 in. deep by 10 ft. 6 in. high. No. 1 to warm 10,000 cubic ft. of space, heat 100 lbs. each day.

Size of room, 10 ft. 6 in. wide by 10 ft. 6 in. deep by 10 ft. 6 in. high. No. 1 to warm 10,000 cubic ft. of space, heat 100 lbs. each day.

Size of room, 10 ft. 6 in. wide by 10 ft. 6 in. deep by 10 ft. 6 in. high. No. 1 to warm 10,000 cubic ft. of space, heat 100 lbs. each day.

Size of room, 10 ft. 6 in. wide by 10 ft. 6 in. deep by 10 ft. 6 in. high. No. 1 to warm 10,000 cubic ft. of space, heat 100 lbs. each day.

Also made in a glass and chimney form at the following prices:—
No. 1, 10 ft. 6 in. wide by 10 ft. 6 in. deep by 10 ft. 6 in. high, No. 1 to warm 10,000 cubic ft. of space, heat 100 lbs. each day.
No. 2, 10 ft. 6 in. wide by 10 ft. 6 in. deep by 10 ft. 6 in. high, No. 2 to warm 10,000 cubic ft. of space, heat 100 lbs. each day.
No. 3, 10 ft. 6 in. wide by 10 ft. 6 in. deep by 10 ft. 6 in. high, No. 3 to warm 10,000 cubic ft. of space, heat 100 lbs. each day.

SHORLAND'S PATENT OPEN FIREPLACE DOUBLE-FRONTED MANCHESTER STOVE.

With four openings for fire, or 10 ft. 6 in. high, No. 1 to warm 10,000 cubic ft. of space, heat 100 lbs. each day. No. 2 to warm 10,000 cubic ft. of space, heat 100 lbs. each day. No. 3 to warm 10,000 cubic ft. of space, heat 100 lbs. each day.



1. A single fronted unit, 10 ft. 6 in. wide by 10 ft. 6 in. deep by 10 ft. 6 in. high, No. 1 to warm 10,000 cubic ft. of space, heat 100 lbs. each day. 2. A double fronted unit, 10 ft. 6 in. wide by 10 ft. 6 in. deep by 10 ft. 6 in. high, No. 2 to warm 10,000 cubic ft. of space, heat 100 lbs. each day. 3. A single fronted unit, 10 ft. 6 in. wide by 10 ft. 6 in. deep by 10 ft. 6 in. high, No. 3 to warm 10,000 cubic ft. of space, heat 100 lbs. each day.

and a complete chimney pipe, or with flue, descending or rising for descending, rock stand, with mounted stand, double door, cast-iron pan, &c., &c.



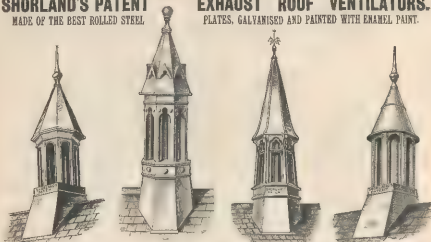
New Illustrated Catalogue, Estimates, &c., Free on Application.

NOTE NEW ADDRESS—

E. H. SHORLAND & BROTHER, DRAKE ST. WORKS, STRETFORD RD., MANCHESTER.
TELEGRAPHIC ADDRESS—"WARMING, MANCHESTER." NATIONAL TELEPHONE, No. 2188

SHORLAND'S PATENT
MADE OF THE BEST ROLLED STEEL

EXHAUST ROOF VENTILATORS.
PLATES, GALVANISED AND PAINTED WITH ENAMEL PAINT.



No. 12 Design.

No. 13 Design.

No. 14 Design.

No. 15 Design.

DESIGN A. In best Rolled Steel Plates, Galvanised and Painted with Enamel Paint.

width dia.	height	weight	width dia.	height	weight	width dia.	height	weight	width dia.	height	weight
12	6	10	12	6	10	12	6	10	12	6	10
14	8	14	14	8	14	14	8	14	14	8	14
16	10	18	16	10	18	16	10	18	16	10	18
18	12	22	18	12	22	18	12	22	18	12	22
20	14	26	20	14	26	20	14	26	20	14	26

SHORLAND'S PATENT CONCEALED ROOF VENTILATORS, RIDGE VENTILATORS, AND SOIL PIPE VENTILATORS.



No. 16 Design.

No. 17 Design.

No. 18 Design.

No. 19 Design.

SHORLAND'S IMPROVED VERTICAL INLET TUBES, BRACKETS, AND PANELS, FROM 6s. 6d. EACH COMMONLY CALLED TOBINS.

New Illustrated Catalogue, Estimates, &c., Free on Application.

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TELEGRAPHIC ADDRESS—"WARMING, MANCHESTER." NATIONAL TELEPHONE, No. 2155.

E. H. SHORLAND AND BROTHER



SHORLAND'S
PATENT WIND AND WATER-RESISTING
ROOF VENTILATORS

SHORLAND'S
PATENT WIND AND WATER-RESISTING
ROOF VENTILATORS

SHORLAND'S
PATENT WIND AND WATER-RESISTING
ROOF VENTILATORS

WARMING AND VENTILATING ENGINEERS
DRAKE STREET WORKS STRETFORD ROAD
MANCHESTER

1874-1875

1874-1875

350 SEC. G—HOT WATER, WARMING, LIGHTING, & VENTILATING.

THE TEALE FIRE - PLACE COMPANY, LEEDS.

46 & 48, WOODHOUSE LANE,

LONDON: 53, Berners Street, Oxford Street, W.

LIONEL H. TEALE,
R. MOUSLEY SOMERS,

} Sole Partners.

HOT WATER & STEAM HEATING & VENTILATING APPARATUS.

PATENT RADIATOR.



FOR HOT WATER OR STEAM.

VENTILATING RADIATOR.

With Dust and Dirt Excluding Screen.



R. M. SOMERS' PATENT, No. 20,108.

PATENT
"OLIMAX" BOILER.



One of the most
Successful Boilers.

Thousands in use.

Hot Water Supply Apparatus,

FOR BATHS, LAVATORIES, &c.

BOILERS, CYLINDERS,
CISTERNS, TANKS,
TUBES & FITTINGS,

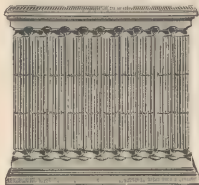
OF EVERY DESCRIPTION.

National Telephone No. 1332.

ESTABLISHED 1870.

WILLIAM TRUSWELL & SON, Heating & Ventilating Engineers, DURHAM FOUNDRY, Sheffield, & at CALORIC WORKS, Newcastle, Staffs.

Drawings, and all Information on Application



THE CALORIC RADIATOR.

Regd. No. 268128.

W. T. & S. strongly recommend this Radiator as being very neat and effective.

Height 4 ft. 11 in. 10 Pipes are 39 in. wide and contain 35 superficial feet of heating surface.

Any size made from 3 to 10 Pipes.



Regd. No. 231744.

REGISTERED ORNAMENTAL RADIATOR.

Is well suited for living or Entrance Halls, Corridors, Gentlemen's Houses, Public Buildings, &c.

Can be fixed in the centre of a room, as both sides are made the same if so ordered. Four in four sizes, 3 ft. 3 in. and 6 Pipes. Ordinary heights are 4 ft. 6 in. and 3 ft. 6 in., 6 Pipes 3 ft. 6 in. high are 3 ft. 6 in. wide and contain 30 superficial feet of heating surface.

SUITABLE FOR STEAM OR HOT WATER. PRICES ON APPLICATION.

**Low Pressure
STEAM.**

**Low Pressure
HOT WATER.**

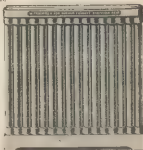
**High Pressure
HOT WATER.**

Compound Principle.

**Exhaust Steam.
HOT AIR.**

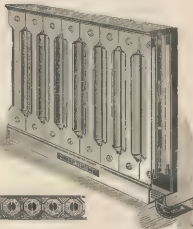
**Plain & Ornamental
STOVES.**

**GREENHOUSES
HEATED.**



UNIQUE RADIATOR.

One Inch Wrought Iron Pipes can be made any height or width up to 16 Pipes which contain 17 superficial feet of heating surface, and is 2 ft. 10 in. high.



THE VENTILATING RADIATOR.

This Radiator is specially designed for Ventilating as well as Heating. Special provision being made for an egress of cold air as shown by arrows, which passes up the inner 1 inch tube (a) and out through the grating at top. The cold air from without can be closed off at pleasure.

Heights 3 ft. and 3 ft. 5 in., 8 Pipes 3 ft. 5 in. high are 3 ft. 6 in. wide and contain 30 superficial feet of heating surface.

CAN BE MADE ANY WIDTH.

We strongly recommend this Radiator to our Agents as being the best known to us for the purposes above stated.

352 SEC. G—HOT WATER, WARMING, LIGHTING, AND VENTILATING.

WAGHORNE'S PATENT VACUUM COWL.

Manufactured in Strong Zinc (Plain or Painted).

THE ONLY CERTAIN, SIMPLE, AND SCIENTIFIC REMEDY FOR SMOKY CHIMNEYS,

Also for Ventilating House Pipes, Urban and Suburban Sanitary Relief Pipes.

The main feature of the Cowl is a broad band formed into an ascending spiral, as shown.

Any current of air impinging on the surfaces of the helix acquires a rotary ascending motion, thus creating a partial vacuum in the Chimney, causing a rapid up-draught.

The stronger the horizontal pressure of wind or down-draught from the exterior, the greater will be the up-draught in the flue, so that a fierce blast or hurricane only makes the fire burn more brightly. For this reason the invention is unequalled for applying to Ventilating pipes of all descriptions.

No. 1.—Made in strong Zinc, to fit into ordinary pot, 3ft high, 8in. diameter. Plain, 42/- each. Painted, 46/- each.

No. 2. Strong Zinc with base for fixing in brickwork, 4ft. high, 8in. x 9-in base. Plain, 50/- each. Painted, 55/- each.

Pattern No. 1 is made in smaller sizes for ventilating House Pipes, &c. Prices:—

For 3in Pipe, plain,	18/-	each,	Painted,	20/-	each.
" 4in. " "	20/-	" "	" "	23/3	"
" 5in. " "	24/-	" "	" "	26/6	"
" 6in. " "	30/-	" "	" "	33/-	"

Any size can be made to order, at proportional rates

AGENTS:—

WAGHORNE & MILES,

146 & 148, HIGH STREET,
CROYDON, S.E.



No. 1.



No. 2.

Architects would oblige by mentioning the source of their information when communicating with the Firms represented in "The Compendium."



Section H.

Ironmongery and Hardware.

FIRMS REPRESENTED IN THIS SECTION

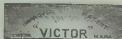
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PERFECTION IN DOOR SPRINGS.

FIFTY-THREE MEDALS AND CERTIFICATES
OF THE HIGHEST CLASS

Have now been awarded for these Goods at
INTERNATIONAL & TRADE EXHIBITIONS
in Competition.



The latest and most important improvement is the "Victor" Hydraulic Silent Positive Check Floor Door Springs, to the purchase of which the attention of Architects, Builders, and others is called.

The Purpose of these is to offer a safe and reliable means of securing doors in closed position, and to prevent them from being forced open in case of fire, etc.

"EMPRESS VICTOR" PATENT PNEUMATIC SILENT DOOR SPRING.

Most Compact. Fixed Cylinder. Suitable for narrow transoms.

Requires only one inch beyond hinge. Operates wider than others. Strongest when closed. Regulated to close at any speed. Little friction. Least durability.

Fixed by screwing to surface. Suits right or left hand, inside or outside, without change of fittings.



No.	For Doors not exceeding	
1	2 1/2 ft. x 6 in.	10/-
2	3 ft. x 6 in.	22/-
3	3 1/2 ft. x 6 in.	26/-
4	4 ft. x 6 in.	33/-



THE "CROWN VICTOR."

a. A much wider opening than hitherto, the Double Action "Crown" opening to and closing from the angle of 120°, etc., etc.

b. Larger Springs (a) ensuring great elasticity and durability.

c. Easily regulated spring power, turning cap-screw (c).

d. Compact box of regular form, suitable for wood or steel or aluminum doors or narrow sills.

e. Perfect and conserving action, automatically preventing slackness.

f. Check Valve (f) regulating the closing speed without removing the cover.



g. The Door is easily held in the closed position, and yields instantly on opening.

h. The Spring counteracts the weight of the Door, prevents tension wear and the Door rubbing in the frame.

i. No outer box for fixing and noise, etc., if necessary.

For all other sizes, apply to the nearest branch office.



THE "LONDON VICTOR."

SINGLE ACTION.

EXTRA STRONG AND STEEL FACED.

With Hydraulic Positive Silent Check Action.

THE "CROWN VICTOR"—Double Action.

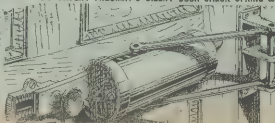
Quality F is supplied unless otherwise specified.

No.	For Doors up to	B	C	D	E	F	No.	For Doors up to	B	C	D	E	F
1	2 1/2 ft. x 6 in.	20	30	40	50	60	20	2 1/2 ft. x 6 in.	20	30	40	50	60
2	3 ft. x 6 in.	40	60	80	100	120	40	3 ft. x 6 in.	40	60	80	100	120
3	3 1/2 ft. x 6 in.	60	80	100	120	140	60	3 1/2 ft. x 6 in.	60	80	100	120	140

B, C, D, E, and F are for use in wood, steel, or aluminum doors and transoms. F With Patented Steel and Steel Faced.

COMBINATION "VICTOR" PATENT PNEUMATIC SILENT DOOR CHECK SPRING & ADJUSTER.

Most Reliable. Powerful. Quickly adjusted. Operates better than any other spring. In two positions, (1) - Full Set (Open Adjuster) in regular position or closed; or as a Silent Door Closer only.



With Set Open Adjuster.

No.	For Doors up to	B	C	D	E	F
1	2 1/2 ft. x 6 in.	20	30	40	50	60
2	3 ft. x 6 in.	40	60	80	100	120
3	3 1/2 ft. x 6 in.	60	80	100	120	140

Without Set Open Adjuster.

No.	For Doors up to	B	C	D	E	F
1	2 1/2 ft. x 6 in.	20	30	40	50	60
2	3 ft. x 6 in.	40	60	80	100	120
3	3 1/2 ft. x 6 in.	60	80	100	120	140

ROBERT ADAMS'
BUILDING
TRADES' EMPORIUM,
67 NEWINGTON CAUSEWAY
LONDON, S.E.

SOLE AGENTS
"ROBERT ADAMS" & CO.
LONDON, N.W.

ROBERT ADAMS' NEW PATENT STIFF-BACK CHAIN FANLIGHT OPENERS

The best house for
VENTILATING
APPARATUS and
GEAR for all
purposes. The
largest and
most com-
plete stock

THE "CALEDONIA."

Secure and self-sustaining.
Works with Cords or Rods, for
single or continuous lights.

Wide opening, neat, perfect
control, durable, widely applicable.

CHEAP
EASILY FIXED

7, 8 to 10/- each.

For single lights
1/- work with Cords.

Wrought Iron and
Bronze "Impervious"
Casements & Frames.

Impregnable Auto-
matic Locks, Bolts, and
Fasteners for
Doors, Gates, Casements
and other Openings.

THE GLIDE
HIDDEN ADJUSTMENT
FOR SEMI-CIRCULAR
FANLIGHTS.

THE PATENT STIFF-BACK CHAIN FANLIGHT OPENERS

THE "UNIFORM."

Specially adapted for Louvre Sashes of
Hospitals, Infirmarys, etc.

Self-sustained in any position. Simultaneous
action throughout. Powerful, easily controlled,
safe, convenient.

Neat and Balanced appearance.
For Windows of any height or width.
Other adjoining Windows may also be
connected.

Price averages 10/- per Sash.

Estimates on receipt of Particulars.

Building Trades' Emporium.

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Telegrams—
"ROBERT ADAMS, LONDON."

Tel. phone—
No. 425.

THE GEM.

No. 524.

Automati-
cally hold
the front
in any
position
by simply
pulling
Cord.

Prices
same as
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Exodus'
Exit-Door
Apparatus
For Factories,
Theatres & Halls, &c.

THE "GEM."

No. 525.

Neat, simple,
safe, rapid, and
reliable.

PRICES

IRON, 7/6 each.

Larger, 12/- each.

BRASS, 15/- each.

Larger, 20/- each.

With Communicating Bar
for both sides.

IRON, 15/- each.

Larger, 30/- each.

BRASS, 30/- each.

Larger, 40/- each.

PERFECTION in WINDOW & SASH OPENING GEAR FASTENERS, BOLTS, &c

53 HIGHEST
AWARDS

ROBERT ADAMS.

AT COMPETITIVE
EXHIBITIONS.

Patent Self-sustaining and Safe Simultaneous Gear for Continuous Rafters of Windows, Sashes, Conservatories, Greenhouses, &c.

ROBERT ADAMS' TRIPLE
ACTION ORNAMENTAL BOLT.

1 inch Rod, 2 feet long,
3s. 6d. 30s.
Do. 1/2 inch, 4 feet, 31s. 6d.

Over 6 feet.

Stones, 2s. per foot extra.
Do. Rods, 6d. per foot extra.

We are so particular as to the
New Patent "Impregna-
ble" Casement and
Door Locking Bolts and
Fasteners, with Layer Key
not on.

No. 7.

No. 150

"VICTOR" PATENT
WEATHER-PROOF SOLID
TONGUED CASEMENT
BOLTSCOTT
SKYLIGHT
LIFTER.

Safe
and
Stable
for
lifting
skylights.

THE
UNIVERSAL
OPENER FOR
FANLIGHTS.

Opening in a
moment the
diamond sash
without the
use of a screw
driver.

"THE LINK
MOTION."

For opening
in a moment
with screw rod and
wrench.

"THE 'TWIN'
SCREW FANLIGHT
OPENER.

To open in a moment. With
Cord or Rod Action.

ROBERT ADAMS'
TRIPLE
ACTION GATE
BOLT.

1 foot 50s.,
smaller, 40s.
Over 6 feet, 1s.
per foot extra.

See the New
Impregnable
Automatic
Locking Gate
Bolt not on
Hatch, 10s. or
12s. extra, as
required.

GATE CATCHES, LATCHES,
AND FITTINGS.

Stoves, Ranges,
Enamelled Slate,
Marble, Iron & Wood
Chimney Pieces.

Baths - Sanitary,
Heating & Ventilating
Appliances.

Wood, China & Brass
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Locks, Bolts, Hinges,
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of every description.

THE
COMBINATION
FANLIGHT OPENER.

1/2 inch, 2s. 6d.
1 inch, 4s. 6d.
1 1/2 inch, 6s. 6d.



SCOTT FANLIGHT ADJUSTMENT.

Safe and Neat. Made in all Sizes.

COLLINGS'
PATENT
GATE HINGES,
LATCHES,
FITTINGS, &
STOPS.

No. 200

PATENT "VICTOR" SLIDING BOLT for Narrow Casements.

ROBERT ADAMS' BUILDING TRADES' EMPORIUM,

67, Newington Causeway, London, S.E.

Telegram - "ROBERT ADAMS, LONDON."

Telephone - No. 4304.

PERFECTION IN PATENT WINDOW AND DOOR FITTINGS, &c. ROBERT ADAMS. AT COMPETITIVE EXHIBITIONS



"TRIUMPH" PATENT SECURE AND REGULATING SASH FASTENER.

Sashes 12	2/0	2/6	2/10	3/-	each
Doors 12	1/3	1/4	1/5	1/6	do

It is. Write for particulars of the New Patent Protective Double Catch Fastener. Affords ventilation. Both are unbreakable and automatically lock. Ask for for Agents, Messrs. R.



"CLINAX" PATENT REVERSIBLE AND SLIDING WINDOW.

No. 174. Most superiorly applied, neatest and cheapest method for a sliding window. 3/6 per Set per Sash. The New Patent "Protective" Fastener, affording secure ventilation can be fitted to all. Request for copies.

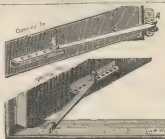
Does not interfere with the window being opened and closed. Other patterns of this patent for being to surface, or to manipulate by hand or by gas, instead of key, &c.

The New Patent PROTECTIVE Window Fastener, with Double Catch.

securely and automatically lock both upper and lower sashes and is irrespective of each other, as any dis- for ventilation or closed. Either one or both the sashes, and it may be regulated for any depth of travel, and is self-acting. It is a simple and easy to operate with a key, or a gas, or a hand. It is a simple and easy to operate with a key, or a gas, or a hand. It is a simple and easy to operate with a key, or a gas, or a hand.



SPANIC OR EXIT
ARTHUR W. ADAMS' PATENT EXODUS
SAFETY DOOR FITTINGS
Pressurized
XOD
LCC
SAFETY ACTION



"VICTOR" CASEMENT STAYS.

Neat, simple, easy to manipulate, do not project.

OPENING IN.				OPENING OUT.			
No. 1	No. 2	No. 3	No. 4	No. 1	No. 2	No. 3	No. 4
1	2	3	4	1	2	3	4
1	2	3	4	1	2	3	4

ARTHUR W. ADAMS' PATENT IMPERVIOUS SECTION
SIMPLE EFFICIENT
METAL CASEMENTS & FRAMES
Suits any way of opening

Condensation Tube.



BOTTOM RAIL OR CASEMENT



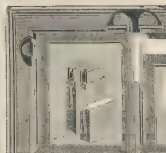
"IMPERVIOUS" PATENT WATER BAR.

Wrought Iron, 1/10 ft Length under 3 feet charged 50 p. feet.

RELIABLE WATER BAR FOR CASEMENTS.

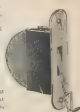
No. 59—Opening in

10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100
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AGENT FOR THE "PULLMAN" SPRING BALANCE FOR SLIDING SASHES.

Dispersed with Conds. Falls Weightless and the usual平安. Guaranteed for Ten Years.



The Best and most easily applied window for

substantially saving and improving Sliding Windows. Effects most economy in material, labor, &c. and is the most reliable and durable window yet invented.

ROBERT ADAMS' BUILDING TRADES' EMPORIUM,
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BALDWIN'S BUTTS

ARE MADE ONLY BY



200



333



564

BALDWIN, SON & CO., LTD., STOURPORT.

Also Broad Butts 200 and 564 of all Sizes.

PARLIAMENT HINGES, SKEW BUTTS, & CAST-IRON HINGES

OF ALL DESCRIPTIONS.

Buyers are earnestly requested to see that the name **BALDWIN**, in addition to the quality number, is cast on all the Butts they purchase—**NONE OTHERS ARE GENUINE**. These numbers were **ORIGINALLY ADOPTED BY B. S. & CO.** to distinguish the different qualities, but since these Butts have obtained favour with consumers, the numbers have been copied by other makers. They are now registered as their

TRADE MARK

AS

BALDWIN
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BALDWIN
333

BALDWIN
564

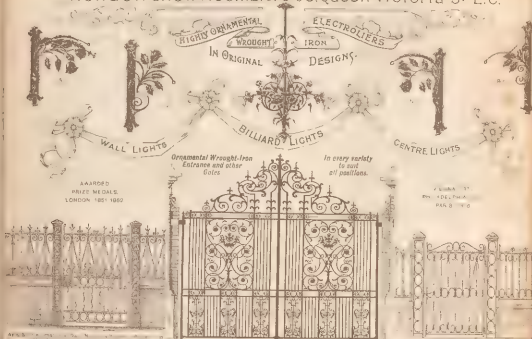
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London Office: No. 23, HOLBORN VIADUCT, E.C.

Barnard, Bishop & Barnards, Ltd

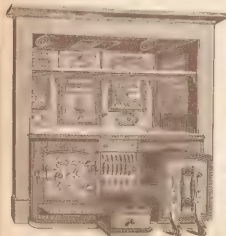
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Ornamental Wrought-Iron Entrances and other Gates, to suit all positions.

Ornamental Wrought-Iron Entrances and other Gates, to suit all positions.



NEW AND IMPROVED COOKING RANGE "THE NORWICH."

A perfect pastry oven with bottom heat, draw-out grate enabling the fire to be reduced, open or close fire arrangement, under silver, tiled coverings, ceiling plate with register, high pressure welded steel, heavy pan, meat stand, tray, raker, and fire brush, complete. The best finished and most substantial range in the market.

PRICES

N.	Width.	Black Enamel.	Polished Enamel.	Polished Enamel.	Polished Enamel.	11 Feet Breadth on Sides.
101	10 0	28 0 0	28 0 0	28 0 0	28 0 0	28 0 0
102	12 0	32 0 0	32 0 0	32 0 0	32 0 0	32 0 0
103	14 0	36 0 0	36 0 0	36 0 0	36 0 0	36 0 0
104	16 0	40 0 0	40 0 0	40 0 0	40 0 0	40 0 0
105	18 0	44 0 0	44 0 0	44 0 0	44 0 0	44 0 0

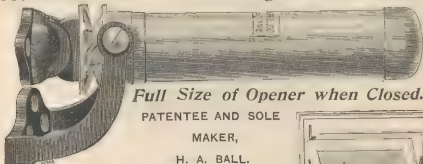
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Business undertaken in any part of the Country and Estimates furnished for the Construction of Heating Apparatus. Architect.

THE PATENT
"TELESCOPE"
FANLIGHT OPENER.

MOST COMPACT. Suits all Lights. SIMPLEST.

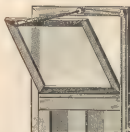


Full Size of Opener when Closed.

PATENTEE AND SOLE

MAKER,

H. A. BALL.



No 1

For Lights hung at Bottom and Opening Inwards.



No 3

For Lights hung at Top and Opening Outwards.



The EASY.

The "EASY" is another very simple Fanlight Opener, worked with a screwed rod and handle, Suitable for all lights. Made in Brass, Gun Metal, or Iron. Architects waited on with Samples. For prices and all particulars apply to

H. A. BALL,
Wholesale & Manufacturing Ironmonger,
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A LARGE STOCK KEPT OF EVERY DESCRIPTION OF BUILDERS' IRONMONGERY.
CATALOGUES SENT POST FREE ON RECEIPT OF CARD.

Established 200 years.

J-B & SONS,
High-Class Ironmongery.PRIZE MEDAL FOR LOCKS
AND SUPERIOR IRONMONGERY.**J. H. BOOBYER & SONS,**13 & 14, Stanhope Street, { Newcastle Street, London, W.C.
13, Blackmoor Street,

Fifteen minutes' from Charing Cross, Waterloo, Ludgate, and Farringdon Street Stations. Five minutes' from Temple Station.

RIM LOCKS.

- No. 100 Tumbler, all Brass 6 1/2 in. 7 1/2 in. 8 1/2 in.
2-Lever ditto 9 1/2
103 Tumbler, all Brass, beaded edge, as drawn .. 8 1/2 10 1/2
2-Lever do. do. 10 1/2 12 1/2
Best 2-Lever do. 14 1/2
105 2-Lever Iron, with Brass Bolts 2 1/2 3 1/2 5 1/2

**MORTISE LOCKS.**

- No. 200 4-Lever, best with Gun Metal Bolts, & Steel followers bushed .. 6 in. 7 1/2 in. 9 1/2
201 2-Lever, with Brass Bolts, and Steel followers bushed 4 1/2 6 1/2
202 2-Lever, with Brass Bolts of lighter make, and steel followers bushed 3 1/2

Also **ROLLER BOLT MORTISE LOCKS** from 3 1/2; and **SPRINGLESS RIM and MORTISE LOCKS**, from 4 1/2 each. Locks to differ, with Master Key to order. All Locks are priced without furniture. Asylum and other Special Locks to order. **BRASS POSTAL HANDLES** Polished or Brased, 3/- to 25/- each. Also Iron, 2/- each.

No. 5.



No. 6, OVAL, as drawn, 2 1/2 in., 3 1/2 in., 4 1/2 in., 4 3/4 in. Set.



PITTS' or GIBBONS'.
No. 6, 6/- set. No. 7, 6 1/2 set

**KNOCKERS.**

No. 11. Brass, as drawn, from 4 1/2 each, Iron 2/- ..

BELL LEVERS.

Reeded, from 5 1/2 pair. For No. 6, 7/- pair. For No. 7, 8 1/2 pair.

No. 8.
DROP RING FURNITURE.
2 1/2 in., 5 1/2 Set.



Long 1/2 each. Short, 2/- each
2 1/2 Ebony, Oak, or Cocuo, Pitt's or Gibbons' action, 4/-; MACE's, 2, 3 set.

Reeded ditto 5/- set.
Finger Plates, from 2 1/2 pair.

Long, 2 1/2 each
Short, 1 1/2 ..

For other Drawings see previous years' COMPENDIUMS.



REGISTERED
LOCK PLATE.
No. 10, 10/- Pair.

ARCHITECTS' OWN DESIGNS CAREFULLY CARRIED OUT IN WROUGHT IRON, OR OTHER METAL OR WOOD

Established 200 years.

J-B & SONS,
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PRIZE MEDAL FOR LOCKS
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13 & 14, Stanhope Street,
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Fifteen minutes from Charing Cross, Waterloo, Ludgate, and Farringdon Street Stations. Five minutes from Temple Station.

FRENCH CASEMENT BOLTS.

1½ in and
1½ in wide.



- | | | | |
|--|----------------------|---------------------------|---------------|
| No. 20. All Iron .. | 6 ft. 6 in. 2½ each. | No. 22. All Brass .. | from 2½ foot. |
| " 21. Iron with Brass Knob | 5 6 | " 23. Best ditto as drawn | 3 9 |
| Also Espagnolette Bolts, ½-in., ¾-in., 1-in., 1½-in., 2-in., 4-in. per foot. | | | |

CASEMENT STAYS.



- | | | |
|---------|--|------|
| No. 30. | Strong Screw down, solid brass (as drawn for Casements opening inwards, also for Casements opening outwards) | 27/- |
| " 31. | Extra strong ditto | 34/- |
| " 32. | Double Jointed Pin Casement Stay, strong | 25/- |
| " 33. | Casement Stay, strong | 30/- |
| " 34. | Double Jointed Pin Casement Stay, strong | 30/- |
| " 35. | Double Jointed Pin Casement Stay, strong | 30/- |



- | | |
|---------|--|
| No. 33. | Double Jointed Pin Casement Stay, Gan Metal |
| " 34. | Curled end Stay, as in 1893 COMPENDIUM, Malleable as Wrot Iron |
| " 35. | Ditto Ditto Brass |

CASEMENT FASTENERS.

- | | | |
|---------|--|--------------|
| No. 40. | Polished Brass or Bronzed, with Staples | 9/- per doz. |
| " 41. | Iron, Malleable | 4/6 " |
| " 42. | Brass, Bronzed, or Polished Cockpurs, as drawn | 23/- " |
| " 43. | Iron, Malleable, Square Handled Cockpurs | 0/- " |
| " 44. | Polished Brass Curled Handled Cockpurs, as in 1893 COMPENDIUM, to match No. 33 Stays | 24/- " |
| " 45. | Iron, Malleable, Curled Handled, as in 1893 COMPENDIUM, to match No. 34 Stays | 7/6 " |

SWING DOOR HANDLES, all Brass, 5/- to 40/- pair; also with Ebony Grips.

SASH FASTENERS.

- | | |
|---|-------------------|
| Hopkinson's Patent Guarded Arm and Reeded Knob | 7/6—20/- per doz. |
| A Variety of other Patents in Stock, Stanley, Albert, Meakin. | |



STABLE FITTINGS.—Matfield's Patent Rollers, Bottom from 9/-; Hanging, 1½/- each. Collings's Hinges

RASH LINER.—Eimp, Flax, Calcut, Steel Ribbon, Wire Rope, Copper Chain.

RINGS.—No. 50. Brass Belt with Double Steel Washers, as in 1893 COMPENDIUM 3 in., 2 1/2 in., 2 1/4 in., 2 1/8 in., 2 1/16 in., 4 1/2 in., 4 1/4 in., 4 1/8 in., 4 1/16 in., 5 in., 5 1/8 in., 5 1/4 in., 5 1/16 in., 6 in., 6 1/8 in., 6 1/4 in., 6 1/16 in., 7 in., 7 1/8 in., 7 1/4 in., 7 1/16 in., 8 in., 8 1/8 in., 8 1/4 in., 8 1/16 in., 9 in., 9 1/8 in., 9 1/4 in., 9 1/16 in., 10 in., 10 1/8 in., 10 1/4 in., 10 1/16 in., 11 in., 11 1/8 in., 11 1/4 in., 11 1/16 in., 12 in., 12 1/8 in., 12 1/4 in., 12 1/16 in., 13 in., 13 1/8 in., 13 1/4 in., 13 1/16 in., 14 in., 14 1/8 in., 14 1/4 in., 14 1/16 in., 15 in., 15 1/8 in., 15 1/4 in., 15 1/16 in., 16 in., 16 1/8 in., 16 1/4 in., 16 1/16 in., 17 in., 17 1/8 in., 17 1/4 in., 17 1/16 in., 18 in., 18 1/8 in., 18 1/4 in., 18 1/16 in., 19 in., 19 1/8 in., 19 1/4 in., 19 1/16 in., 20 in., 20 1/8 in., 20 1/4 in., 20 1/16 in., 21 in., 21 1/8 in., 21 1/4 in., 21 1/16 in., 22 in., 22 1/8 in., 22 1/4 in., 22 1/16 in., 23 in., 23 1/8 in., 23 1/4 in., 23 1/16 in., 24 in., 24 1/8 in., 24 1/4 in., 24 1/16 in., 25 in., 25 1/8 in., 25 1/4 in., 25 1/16 in., 26 in., 26 1/8 in., 26 1/4 in., 26 1/16 in., 27 in., 27 1/8 in., 27 1/4 in., 27 1/16 in., 28 in., 28 1/8 in., 28 1/4 in., 28 1/16 in., 29 in., 29 1/8 in., 29 1/4 in., 29 1/16 in., 30 in., 30 1/8 in., 30 1/4 in., 30 1/16 in., 31 in., 31 1/8 in., 31 1/4 in., 31 1/16 in., 32 in., 32 1/8 in., 32 1/4 in., 32 1/16 in., 33 in., 33 1/8 in., 33 1/4 in., 33 1/16 in., 34 in., 34 1/8 in., 34 1/4 in., 34 1/16 in., 35 in., 35 1/8 in., 35 1/4 in., 35 1/16 in., 36 in., 36 1/8 in., 36 1/4 in., 36 1/16 in., 37 in., 37 1/8 in., 37 1/4 in., 37 1/16 in., 38 in., 38 1/8 in., 38 1/4 in., 38 1/16 in., 39 in., 39 1/8 in., 39 1/4 in., 39 1/16 in., 40 in., 40 1/8 in., 40 1/4 in., 40 1/16 in., 41 in., 41 1/8 in., 41 1/4 in., 41 1/16 in., 42 in., 42 1/8 in., 42 1/4 in., 42 1/16 in., 43 in., 43 1/8 in., 43 1/4 in., 43 1/16 in., 44 in., 44 1/8 in., 44 1/4 in., 44 1/16 in., 45 in., 45 1/8 in., 45 1/4 in., 45 1/16 in., 46 in., 46 1/8 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90 1/16 in., 91 in., 91 1/8 in., 91 1/4 in., 91 1/16 in., 92 in., 92 1/8 in., 92 1/4 in., 92 1/16 in., 93 in., 93 1/8 in., 93 1/4 in., 93 1/16 in., 94 in., 94 1/8 in., 94 1/4 in., 94 1/16 in., 95 in., 95 1/8 in., 95 1/4 in., 95 1/16 in., 96 in., 96 1/8 in., 96 1/4 in., 96 1/16 in., 97 in., 97 1/8 in., 97 1/4 in., 97 1/16 in., 98 in., 98 1/8 in., 98 1/4 in., 98 1/16 in., 99 in., 99 1/8 in., 99 1/4 in., 99 1/16 in., 100 in., 100 1/8 in., 100 1/4 in., 100 1/16 in., 101 in., 101 1/8 in., 101 1/4 in., 101 1/16 in., 102 in., 102 1/8 in., 102 1/4 in., 102 1/16 in., 103 in., 103 1/8 in., 103 1/4 in., 103 1/16 in., 104 in., 104 1/8 in., 104 1/4 in., 104 1/16 in., 105 in., 105 1/8 in., 105 1/4 in., 105 1/16 in., 106 in., 106 1/8 in., 106 1/4 in., 106 1/16 in., 107 in., 107 1/8 in., 107 1/4 in., 107 1/16 in., 108 in., 108 1/8 in., 108 1/4 in., 108 1/16 in., 109 in., 109 1/8 in., 109 1/4 in., 109 1/16 in., 110 in., 110 1/8 in., 110 1/4 in., 110 1/16 in., 111 in., 111 1/8 in., 111 1/4 in., 111 1/16 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in., 152 1/16 in., 153 in., 153 1/8 in., 153 1/4 in., 153 1/16 in., 154 in., 154 1/8 in., 154 1/4 in., 154 1/16 in., 155 in., 155 1/8 in., 155 1/4 in., 155 1/16 in., 156 in., 156 1/8 in., 156 1/4 in., 156 1/16 in., 157 in., 157 1/8 in., 157 1/4 in., 157 1/16 in., 158 in., 158 1/8 in., 158 1/4 in., 158 1/16 in., 159 in., 159 1/8 in., 159 1/4 in., 159 1/16 in., 160 in., 160 1/8 in., 160 1/4 in., 160 1/16 in., 161 in., 161 1/8 in., 161 1/4 in., 161 1/16 in., 162 in., 162 1/8 in., 162 1/4 in., 162 1/16 in., 163 in., 163 1/8 in., 163 1/4 in., 163 1/16 in., 164 in., 164 1/8 in., 164 1/4 in., 164 1/16 in., 165 in., 165 1/8 in., 165 1/4 in., 165 1/16 in., 166 in., 166 1/8 in., 166 1/4 in., 166 1/16 in., 167 in., 167 1/8 in., 167 1/4 in., 167 1/16 in., 168 in., 168 1/8 in., 168 1/4 in., 168 1/16 in., 169 in., 169 1/8 in., 169 1/4 in., 169 1/16 in., 170 in., 170 1/8 in., 170 1/4 in., 170 1/16 in., 171 in., 171 1/8 in., 171 1/4 in., 171 1/16 in., 172 in., 172 1/8 in., 172 1/4 in., 172 1/16 in., 173 in., 173 1/8 in., 173 1/4 in., 173 1/16 in., 174 in., 174 1/8 in., 174 1/4 in., 174 1/16 in., 175 in., 175 1/8 in., 175 1/4 in., 175 1/16 in., 176 in., 176 1/8 in., 176 1/4 in., 176 1/16 in., 177 in., 177 1/8 in., 177 1/4 in., 177 1/16 in., 178 in., 178 1/8 in., 178 1/4 in., 178 1/16 in., 179 in., 179 1/8 in., 179 1/4 in., 179 1/16 in., 180 in., 180 1/8 in., 180 1/4 in., 180 1/16 in., 181 in., 181 1/8 in., 181 1/4 in., 181 1/16 in., 182 in., 182 1/8 in., 182 1/4 in., 182 1/16 in., 183 in., 183 1/8 in., 183 1/4 in., 183 1/16 in., 184 in., 184 1/8 in., 184 1/4 in., 184 1/16 in., 185 in., 185 1/8 in., 185 1/4 in., 185 1/16 in., 186 in., 186 1/8 in., 186 1/4 in., 186 1/16 in., 187 in., 187 1/8 in., 187 1/4 in., 187 1/16 in., 188 in., 188 1/8 in., 188 1/4 in., 188 1/16 in., 189 in., 189 1/8 in., 189 1/4 in., 189 1/16 in., 190 in., 190 1/8 in., 190 1/4 in., 190 1/16 in., 191 in., 191 1/8 in., 191 1/4 in., 191 1/16 in., 192 in., 192 1/8 in., 192 1/4 in., 192 1/16 in., 193 in., 193 1/8 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254 1/4 in., 254 1/16 in., 255 in., 255 1/8 in., 255 1/4 in., 255 1/16 in., 256 in., 256 1/8 in., 256 1/4 in., 256 1/16 in., 257 in., 257 1/8 in., 257 1/4 in., 257 1/16 in., 258 in., 258 1/8 in., 258 1/4 in., 258 1/16 in., 259 in., 259 1/8 in., 259 1/4 in., 259 1/16 in., 260 in., 260 1/8 in., 260 1/4 in., 260 1/16 in., 261 in., 261 1/8 in., 261 1/4 in., 261 1/16 in., 262 in., 262 1/8 in., 262 1/4 in., 262 1/16 in., 263 in., 263 1/8 in., 263 1/4 in., 263 1/16 in., 264 in., 264 1/8 in., 264 1/4 in., 264 1/16 in., 265 in., 265 1/8 in., 265 1/4 in., 265 1/16 in., 266 in., 266 1/8 in., 266 1/4 in., 266 1/16 in., 267 in., 267 1/8 in., 267 1/4 in., 267 1/16 in., 268 in., 268 1/8 in., 268 1/4 in., 268 1/16 in., 269 in., 269 1/8 in., 269 1/4 in., 269 1/16 in., 270 in., 270 1/8 in., 270 1/4 in., 270 1/16 in., 271 in., 271 1/8 in., 271 1/4 in., 271 1/16 in., 272 in., 272 1/8 in., 272 1/4 in., 272 1/16 in., 273 in., 273 1/8 in., 273 1/4 in., 273 1/16 in., 274 in., 274 1/8 in., 274 1/4 in., 274 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BRATT, COLBRAN & CO.,

22, Castle Street, Finsbury, London, E.C.

Telegrams—"PROTEUS, LONDON."

Telephone No 611

SILVER MEDAL HEALTH EXHIBITION, 1884.

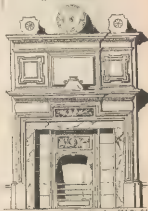
WOOD CHIMNEY PIECES,
STOVES AND TILES,
WROUGHT IRONWORK,
REPOUSSE METAL WORK,
DOOR FURNITURE,
KITCHENERS.



No. 9. Mantel Piece, Interior Tiles &c., 210 15s



No. 1001 Iron Mantel Piece, 43 10s



No. 4 Mantel in Pine, Interior Tiles &c., 414 2s 6d



21 1/2 x 16 1/2,
Interior, No. 100 Fine Cast,
£1 15s



21 1/2 x 16 1/2,
Interior, No. 100 Fine Cast,
£1 12s 6d

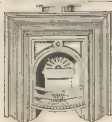


21 1/2 x 16 1/2,
Interior, No. 100 Fine Cast,
£1 11s

REGISTERED DESIGNS.

Prices.

21 1/2 x 16 1/2
£1 17s
21 1/2 x 16 1/2
£4 2s 3d
21 1/2 x 16 1/2
£4 7s 6d
21 1/2 x 16 1/2
£4 12s 6d



CAPT. GALTON VENTILATING GRATE.



LEAMINGTON BARS.

ARCHITECTS'
OWN DESIGNS
FULL-SIZED
and
CARRIED OFF.

MELBOURNE, 1880.



MELBOURNE, 1880.



ADELAIDE, 1882.



KIMBLEDAY, 1882.



JAMES CARTLAND & SON

Manufacturers of every description of
Cabinet, Builders', Furnishing, and Naval Brass Foundry,
BIRMINGHAM.
LONDON SHOW ROOMS—57, HOLBORN VIADUCT. E.C.

Specialities: PRESTON'S PATENT SCREW ADJUSTMENT.



A 508.

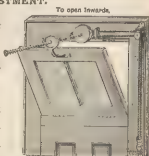
Length of Window	Length of Screw	Length of Bolt
10 ft.	10 ft.	10 ft.
12 ft.	12 ft.	12 ft.
14 ft.	14 ft.	14 ft.
16 ft.	16 ft.	16 ft.
18 ft.	18 ft.	18 ft.
20 ft.	20 ft.	20 ft.
22 ft.	22 ft.	22 ft.
24 ft.	24 ft.	24 ft.
26 ft.	26 ft.	26 ft.
28 ft.	28 ft.	28 ft.
30 ft.	30 ft.	30 ft.

For Skylights.



A 745.

Length of Window	Length of Screw	Length of Bolt
10 ft.	10 ft.	10 ft.
12 ft.	12 ft.	12 ft.
14 ft.	14 ft.	14 ft.
16 ft.	16 ft.	16 ft.
18 ft.	18 ft.	18 ft.
20 ft.	20 ft.	20 ft.
22 ft.	22 ft.	22 ft.
24 ft.	24 ft.	24 ft.
26 ft.	26 ft.	26 ft.
28 ft.	28 ft.	28 ft.
30 ft.	30 ft.	30 ft.



A 745.

CARTLAND'S PATENT GRAVITATING INDICATOR OR W.C. BOLT.

Specially useful for the Doors of W.C.'s Lavatories, Bath Rooms,
Steam Ships, Hotels, Consulting Rooms, Offices, &c.



A 2756—Polished Brass, 4/- each.
Nickel Plated, 6/-



CARTLAND'S PATENT WINDOW OPENER, SUITABLE FOR ALL KINDS OF FANLIGHTS, PIVOT SASHES, SKYLIGHTS, &c.



WINDOW FULLY OPEN.

A2740.
All Brass, Steel, &c. 8/6 each.
Stronger, 10 ft. long—7/6

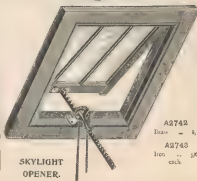
A2741.
Malleable Iron, Braced 3/6 each.
Stronger, 10 ft. long—5/6

ENDLES GREEN CORDS WITH
CONNECTING LINKS.

To work the Openers.

To suspend	To suspend
10 ft. 10 ft. 10 ft.	10 ft. 10 ft. 10 ft.
12 ft. 12 ft. 12 ft.	12 ft. 12 ft. 12 ft.
14 ft. 14 ft. 14 ft.	14 ft. 14 ft. 14 ft.
16 ft. 16 ft. 16 ft.	16 ft. 16 ft. 16 ft.
18 ft. 18 ft. 18 ft.	18 ft. 18 ft. 18 ft.
20 ft. 20 ft. 20 ft.	20 ft. 20 ft. 20 ft.
22 ft. 22 ft. 22 ft.	22 ft. 22 ft. 22 ft.
24 ft. 24 ft. 24 ft.	24 ft. 24 ft. 24 ft.
26 ft. 26 ft. 26 ft.	26 ft. 26 ft. 26 ft.
28 ft. 28 ft. 28 ft.	28 ft. 28 ft. 28 ft.
30 ft. 30 ft. 30 ft.	30 ft. 30 ft. 30 ft.

For doors.

SKYLIGHT
OPENER.

A2742

Brass—8/-

A2743

Iron—5/6 each

JAMES CARTLAND & SON, BIRMINGHAM,

ORIGINAL PATENTEES AND MANUFACTURERS OF THE

HELICAL, CLIMAX, SMITH'S, RELIABLE, AND PATENT ADJUSTABLE CLIMAX FLOOR SPRINGS



Iron 3325
Brass 3324

Regulating Casters.	1/2 in.	3/4 in.	1 in.	1 1/4 in.	1 1/2 in.	2 in.
1/2 in.	1/2	1/2	1/2	1/2	1/2	1/2
3/4 in.	1/2	1/2	1/2	1/2	1/2	1/2
1 in.	1/2	1/2	1/2	1/2	1/2	1/2
1 1/4 in.	1/2	1/2	1/2	1/2	1/2	1/2
1 1/2 in.	1/2	1/2	1/2	1/2	1/2	1/2
2 in.	1/2	1/2	1/2	1/2	1/2	1/2



Iron 3325
Brass 3324

Regulating Casters.	1/2 in.	3/4 in.	1 in.	1 1/4 in.	1 1/2 in.	2 in.
1/2 in.	1/2	1/2	1/2	1/2	1/2	1/2
3/4 in.	1/2	1/2	1/2	1/2	1/2	1/2
1 in.	1/2	1/2	1/2	1/2	1/2	1/2
1 1/4 in.	1/2	1/2	1/2	1/2	1/2	1/2
1 1/2 in.	1/2	1/2	1/2	1/2	1/2	1/2
2 in.	1/2	1/2	1/2	1/2	1/2	1/2



Size of Plate, 13 x 9 1/2 in.	1/2 in.	3/4 in.	1 in.	1 1/4 in.	1 1/2 in.	2 in.
1/2 in.	1/2	1/2	1/2	1/2	1/2	1/2
3/4 in.	1/2	1/2	1/2	1/2	1/2	1/2
1 in.	1/2	1/2	1/2	1/2	1/2	1/2
1 1/4 in.	1/2	1/2	1/2	1/2	1/2	1/2
1 1/2 in.	1/2	1/2	1/2	1/2	1/2	1/2
2 in.	1/2	1/2	1/2	1/2	1/2	1/2

CAUTION.

Merchants, Ironmongers, Builders, and others are requested to see that the Trade Mark, as above, is on each Spring, as the Patentees are informed that spurious imitations of these Springs are being made which have neither the power or durability of the Helical Spring Hinges and Climax Reliable and Adjustable Climax Floor Springs as manufactured by the Original Patentees.

2404.-RELIABLE.



With Brass Shoe for any thickness of door, 70/- each.

Size of Plate, 13 x 9 1/2 in.
Size of Box, 12 x 8 1/2 x 3 in.

This very powerful Floor Spring is specially made for the heavy entrance doors of Banks, Exchanges, Town Halls, Clubs, etc., and is used in the General Post Offices throughout the United Kingdom.



No.	Plate Inches.	Box Inches.	With Iron Shoe Each.	With Brass Shoe Each.
1/2 in.	1/2	1/2	1/2	1/2
3/4 in.	1/2	1/2	1/2	1/2
1 in.	1/2	1/2	1/2	1/2
1 1/4 in.	1/2	1/2	1/2	1/2
1 1/2 in.	1/2	1/2	1/2	1/2
2 in.	1/2	1/2	1/2	1/2



No.	Plate Inches.	Box Inches.	With Iron Shoe Each.	With Brass Shoe Each.
1/2 in.	1/2	1/2	1/2	1/2
3/4 in.	1/2	1/2	1/2	1/2
1 in.	1/2	1/2	1/2	1/2
1 1/4 in.	1/2	1/2	1/2	1/2
1 1/2 in.	1/2	1/2	1/2	1/2
2 in.	1/2	1/2	1/2	1/2



No.	Plate Inches.	Box Inches.	With Iron Shoe Each.	With Brass Shoe Each.
1/2 in.	1/2	1/2	1/2	1/2
3/4 in.	1/2	1/2	1/2	1/2
1 in.	1/2	1/2	1/2	1/2
1 1/4 in.	1/2	1/2	1/2	1/2
1 1/2 in.	1/2	1/2	1/2	1/2
2 in.	1/2	1/2	1/2	1/2

SOLID JOINT MACHINE-MADE BRASS BUTT HINGES.

These Hinges are of a very superior make and finish, each one is an exact counterpart of the other, and, being mathematically true, are especially adapted for Cabinet work.

Each Hinge bears our Trade Mark. Buyers are respectfully requested to notice this.



LIST OF PRICES -Per Dozen Pairs.									
Medium Suits, for Cabinetmakers.									
	5.00, Open	11	12	13	14	15	16	17	18
		12	13	14	15	16	17	18	19
With Milled Faces and Backs	\$180	1	2 1/2	4 1/2	5	6 1/2	8	10	12 1/2
With Sanded Faces, Polished Backs, and Lacquered	\$191	1 1/2	4	6	7 1/2	9 1/2	11 1/2	14	17 1/2
Polished all over and Lacquered	\$202	2	4 1/2	7	8 1/2	11	13 1/2	16 1/2	20 1/2
BRASS PINS, extra per dozen pairs ..	50	2	3	4	5	6	7	8	9
Stronger Build, specially adapted for Builders' and Ship's use.									
	5.00, Open	11	12	13	14	15	16	17	18
		12	13	14	15	16	17	18	19
With Milled Faces and Backs	\$180	1	2 1/2	4 1/2	5	6 1/2	8	10	12 1/2
With Sanded Faces, Polished Backs, and Lacquered	\$191	1 1/2	4	6	7 1/2	9 1/2	11 1/2	14	17 1/2
Polished all over and Lacquered	\$202	2	4 1/2	7	8 1/2	11	13 1/2	16 1/2	20 1/2
BRASS PINS, extra per dozen pairs ..	50	2	3	4	5	6	7	8	9

CHUBB'S SEGMENT BOLT LOCKS,

(2 or 4 Lever)

128, Queen Victoria St., London, E.C.

NEW CHEAP HOUSE DOOR LOCKS,

KNOWN AS

CHUBB'S SEGMENT BOLT LOCKS,

Made under recent Letters Patent.

The
Special Features
are:

HINGED SEGMENTAL LATCH BOLTS—SILENT, FRICTIONLESS, DURABLE.
BRASS BOLTS AND LEVERS TO ALL LOCKS.
SUPERIOR STRENGTH, WORKMANSHIP AND FINISH.
PERFECT ACTION WITHOUT LUBRICANTS
NO SPECIAL DOOR FURNITURE REQUIRED
PATENT ADJUSTABLE STRIKING PLATE OR STAPLE.



SEGMENT BOLT LOCKS.

	4 L	5 L	6 L	7 L
2 Bolt Mortice, with Adjustable Striking Plate, 2 Lever, 2 Key each	6 6	7 0	7 6	8 0
2 Bolt Rim, with Adjustable Striking Staple, 2 Lever, 2 Key each	5 6	6 0	6 6	7 0

SEGMENT BOLT LATCHES.

	4 L	5 L	6 L	7 L
2 Bolt Mortice, with Adjustable Striking Staple, 2 Lever, 2 Key each	4 0	4 6	5 0	5 6
2 Bolt Rim, with Adjustable Striking Staple, 2 Lever, 2 Key each	3 6	4 0	4 6	5 0

DEAD LOCKS—2 or 4 LEVER.

	4 L	5 L	6 L	7 L
Mortice Dead, with Ordinary Striking Staple 2 Lever 2 Key each	5 0	5 6	6 0	6 6
Rim Dead, with Lock One Side only	4 0	4 6	5 0	5 6
Rim Dead, with Lock One Side only	3 6	4 0	4 6	5 0
Rim Dead, with Lock One Side only	3 0	3 6	4 0	4 6

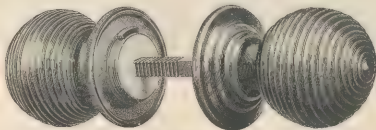
THE EXCLUSIVE RIGHT OF SALE OF

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ADVANTAGES PROVED BY USE.

Handles cannot come off or work loose.
Can be fixed in about one minute.
No tools required for fixing.
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Complete in two parts.

DIRECTIONS FOR FIXING.

Take the knob to which spindle is fixed and pass spindle through the hole made for it in door and lock, then place the adjustable knob on the protruding end of the spindle with the hinged wedge piece raised and immediately over one of the serrated sides of the spindle. Push both knobs close up to the door, then wedge piece will drop into one of the serrations, and by turning the screwed rose collar to the right until it covers the wedge piece and is tight the fixing is complete.

NOTE.—Spindles are cut on two sides at intermediate spaces, therefore use side which gives closest fit.

ILLUSTRATED PRICE SHEET ON APPLICATION.

CHUBB & SON'S LOCK & SAFE COMPANY, LTD.,

Makers to the Queen and to the Bank of England,

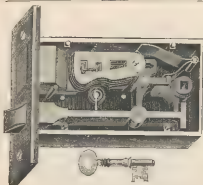
128, QUEEN VICTORIA STREET, LONDON, E.C.

COLLEDGE & BRIDGEN,

Telephone Number
COLLEDGE
WOLVERHAMPTON

MIDLAND LOCK WORKS, WOLVERHAMPTON.

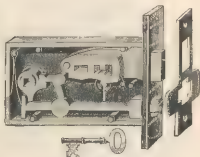
Telephone Number
No. 1405



No. 3256.

4-LEVER MORTISE.

		6 in	7 in
No. 3206.	2 Brass Bolt Bushed ..	3/6	ea
No. 3257.	2-Lever, 2 Brass Bolt, Steel Follower, Gun Metal Bushed ..	4/9	6/6 "
No. 3259.	2-Lever, 2 Brass Bolt, Strong, Steel Follower, Gun Metal Bushed ..	6/3	8/1 "
No. 3256	4-Lever, 2 Brass Bolt, Strong, Steel Follower, Gun Metal Bushed ..	8/1	9/9 "
No. 3259.	4-Lever, 2 Gun Metal Bolt, Extra Strong ..	10/9	13 "
No. 3270.	6-Lever, 2 Gun Metal Bolt, Extra Strong ..	15/6	17/6 "



No. 750

4-LEVER ROLLER BOLT MORTISE

		6 in.	7 in.
No. 756.	Tumbler, 2 Brass Bolt, Gun Metal Rollers ..	4/6	5/6 ea.
No. 757.	2-Lever, 2 Brass Bolt, Gun Metal Bushed, Gun Metal Rollers ..	6	7 "
No. 758	2-Lever, 2 Brass Bolt, Gun Metal Bushed, Gun Metal Rollers, Strong ..	7/3	9 "
No. 759	4-Lever, 2 Brass Bolt, Gun Metal Bushed, Gun Metal Rollers, Strong ..	9	10/9 "



THE RELIABLE MORTISE LOCK.

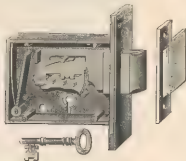
Suitable for Villa Residences, &c.

Thousands in use giving Universal Satisfaction.
2 Lever, Gun Metal Bolts, Gun Metal Bushed,
Steel Case, 4/- each. Brass Case, 5/6 each.



MORTISE NIGHT LATCH.

No. 3284. 3. 3 1/2. 4 in.
2 Lever, 7/9 each. 4-Lever,
8/9 each.
No. 700 Milled edge
Brass Furniture for ditto,
1/- per set.



ASYLUM LOCK.

No. 800.

We make this Lock to suit special requirements.
Estimates given on receipt of particulars.

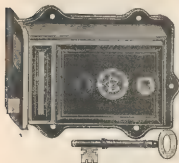
NOTE.—MORTISE LOCKS.—If made to differ and Master Key to pass, 2/3 each lock extra. Master Keys, 2/- each.
Locks Half Rebrated, 1/-; Full Rebrated, 4/6 each extra.

COLLEDGE & BRIDGEN,

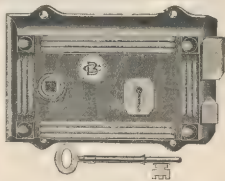
Telegraph Address
"COLLE," W.
WOLVERHAMPTON

MIDLAND LOCK WORKS, WOLVERHAMPTON.

See, on 1 Telegraph
No 3, 113.

**6 in. RIM LOCK.**

- No. 2343. 2 Brass Bolt, 1-Lever 2/8 ea.
No. 2345. " " 2 " 3/6 "
No. 2359. All Brass Polished 10/- "

**6 in. RIM LOCK.**

- No. 2453 2 Brass Bolt, 1-Lever ... 2/6 ea.
No. 2457. " " 2 " ... 2/10 "
No. 538. Rim Latch, to match above ... 1/2 "



6 in. 7 in. 8 in.

- No. 175. 1-Lever, 2 Brass Bolt,
Brass Bushed ... 4/- 4/9 6/- ea.
No. 207. Strong Solid Ward ... 4/4 5- 6 6 "
No. 208. " 4-Lever ... 8/- 9/6 11/6 "

**PRISON AND POLICE CELL
LOCK.**

ESTIMATES GIVEN ON RECEIPT OF PARTICULARS.

SUPERIOR BUILDERS' IRONMONGERY OF EVERY DESCRIPTION.

ILLUSTRATED LISTS ON APPLICATION.

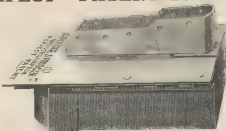
COLLEDGE & BRIDGEN.

THE "PERFECT" PATENT FLOOR SPRING.

THE BEST
SPRING INVENTED

MADE WITH OR
WITHOUT CHECK.

DOORS KEPT RIGIDLY TO
CENTRE WHEN CLOSED



Architects should
specify no
other Spring but the
"PERFECT."

DOORS KEPT RIGIDLY TO
CENTRE WHEN CLOSED

No.					14	18	2	24	24 In. Brass Shoe.
983	For medium doors	..	..	..	15/0	18/0	18/0	25/0	each
984	For heavy doors	..	..	..	25/0	27/0	27/0	50/0	"
985	For Bank Doors	..	..	..	47/0	49/0	49/0	50/0	"

If with Adjustable Top Centre, 2/6 each extra. If with Adjustable Shoe, 5/6 each extra.

THE "PERFECT" PATENT FLOOR SPRING WITH CHECK.

TO CLOSE DOORS QUIETLY TO CENTRE.
No. 987 For light or medium doors 5/6 each.
No. 988 For heavy doors 58/0 "

WITH ADJUSTABLE SHOE ANY SIZE.

THE "PERFECT" PATENT FLOOR SPRING WITH CHECK.

FOR SINGLE ACTION DOORS.
No. 1756 For light doors 27/6 each
No. 1757 For medium doors 38/6 "
No. 1758 For heavy doors 49/0 "

When the "PERFECT" FLOOR SPRING AND CHECK is used the door will close automatically within a few inches of closing point, when the Check comes into action, and after a slight pause, quietly closes, preventing the banging backwards and forwards, which wears the Spring and is a constant danger to persons passing through.

The above Springs are now in use in some of the largest and most important Buildings in this country and abroad, and are giving universal satisfaction.

REGISTERED BRASS FLUSH BOLTS.

No. 995

This Bolt acts by pulling the Lever A forward and folding it into the opposite recess. The action gives great facility and power in shooting the bolt.



COLLINS PANIC DOOR BOLTS.

Sole Makers,
COLLEDGE & BRIDGEN,
For Doors of any size.

No. 2051 All Iron.. 25/6 each
No. 2052 Iron Rods, with Brass
Box, Filings and Staples,
29/0 each.

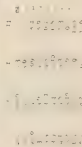


No. 991 PANIC DOOR MORTISE LOCK
When latched or locked, door is
instantly set free by pushing in the
push plate 27/6 each



No. 992 No. 993

No. 992 STABLE MORTISE LOCK, with
Gun Metal Bolts and Bushes 9/6 each.
Double Borelled Spring Bolt, same price.
No. 993 Brass Flush Handles for do 4/3 each.



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THE BRITISH IRON FOUNDRY CO.

(C. F. ASH & Co.)

Established 1850.

Head Offices, Warehouses and Show Rooms:—20 & 21, UPPER THAMES STREET, LONDON, E.C.

MANUFACTURERS AND MERCHANTS OF ALL BUILDERS' GOODS.

TILED REGISTER STOVES
AND INTERIORS.

TILES FOR HEARTHES.

MANTEL REGISTERS,
OVER MANTELS.CHIMNEY PIECES IRON,
MARBLE AND ENAMELLED
SLATE.ALL KINDS OF
SLOW COMBUSTION STOVESLAVATORIES, BATHS,
SANITARY APPLIANCES.
&c. &c.KITCHENERS OF EVERY
DESCRIPTION.SELF SETTING AND
PORTABLE STOVES.ENGLISH OPEN AND CLOSE
FIRE RANGES
COOKING APPARATUSBOILERS, STABLE FITTINGS,
RAILINGS AND GATES
FENCING, CISTERNS AND
TANKS.DUST BINS, MANHOLE
COVERS.CLOSETS, SANITARY SOIL
PIPE AND CONNECTIONS,
STAIRCASES, STEPS
LANDINGS, AND GENERAL
CASTINGS, &c. &c.

No 48. Tile Register with Draw out Canopy to lift off. Sizes made 36 to 40in. wide.
 PRICES:—SPECIAL FINISH **BB LESS TILES £2 12s. 6d.** BEST FINISH **BB LESS TILES £2 17s. 6d.**
 PRICE LISTS AND CATALOGUES ON APPLICATION.

To avoid confusion please note Style and Address of Firm.

JOHN GIBBS & SON'S

Patent

Trade

Registered

Mark

Automatic

Gibbs' Fireplace Liner



RAIN WATER SEPARATOR,

For Separating the

First Washings from the Roof and Collecting the Clean Water of a Rain Fall.

For further information apply to—

JOHN GIBBS & SON,

Contractors to the Lords Commissioners of the Admiralty, H.M. War Office, H.M. Office of Works, L & N.W., G. W. I. & Y., C. L. C. Railways, etc., The Liverpool Corporation, The School Board for London, etc., etc.

WARMING, VENTILATING AND CONSULTING ENGINEERS,

72, 74, & 76, DUKE STREET (late of 27, South John Street), LIVERPOOL.

Telegrams: "VENTILATION," Liverpool

Telephone No. 1389.

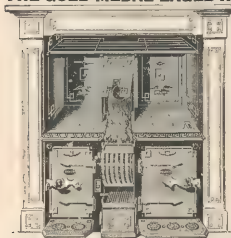
SEE PAGES 301 & 643.

THE EAGLE RANGE & FOUNDRY Co., LTD., 178, REGENT ST., 58, S. PAUL'S CHURCHYARD LONDON.

CONTRACTORS TO HER MAJESTY'S GOVERNMENT & CROWN AGENTS FOR THE COLONIES.

RANGES AND GRATES TO BE SEEN IN OPERATION AT BOTH ADDRESSES

THE GOLD MEDAL EAGLE RANGE: "ORIGINAL PATENT."

AWARDED 18 GOLD & 28 SILVER MEDALS
A GOLD MEDALBY THE
SOCIETY OF ARCHITECTS
FIVE YEARS IN SUCCESSION.

MADE FROM 2 TO 16 FT. WIDE.

SPECIAL ADVANTAGES.

MADE FROM 2 TO 16 FT. WIDE.

The Eagle Adjustable Fire, a Simple and Perfect Convertible Open and Close Fire—Heats Large Joints in front of Fire, Heats perfectly in Ovens—Sovereign Baster for the Perfect Baking of Delicate Pastries and Bread—Imperishable Iron Flues—No skilled bricklaying required—Automatic Cylinder Riser—Perfect Ventilation—Strength and Durability—Relieve capable of fulfilling any demand—Steady, Safe, simple, or Low Pressure—Great Economy in Fuel Through Efficiency—Important Advantages of Smoke, and other advantageous features.

SPECIAL NOTICE.

Each register and is now being made of the same "EAGLE RANGE" that it becomes necessary to order the "EAGLE RANGE & FOUNDRY CO."

THE GOLD MEDAL EAGLE FIRE GRATE.

ADVANTAGES.

Easy Motion—Slow or very slow—Close or open.

Will keep alight 24 hours without attention.

Fire can be lit, and a good heat established in five minutes.

Removes troublesome chimneys.

Room can be heated on one side, or equally at all parts.

Keeps a very low temperature for comfort and economy.

Temperature of room can be instantly reduced, if desired.

Most powerful radiator of heat.

Fire can be kept going night and day with the least possible attention, using little fuel.

Equable temperature day and night with perfect safety.



EXTRACTS

TESTIMONIALS.

"The Grate has been a 'right' for weeks without going out."

—J. C. & J. FIELD, Ltd.

"It has solved the smoky chimney problem."

Rev. J. H. CRUMP.

"It is the best Grate I have ever seen."—Sir J. SINCLAIR.

"I can speak in the highest terms of your Grate."

A. M. BRADLEY, Esq.

"Your Grate has immense advantages, the fire keeps alight all the week day and night."

I can now keep tropical birds in the drawing room; the servants do not now have to come in and out all day to attend to the fire."

I want to order two more."

Hon. J. W. FLEMING, M.P., (now Lord DESBARRI).

NOTE.—The Transparent Oven Door is now perfected.

ENSOR & CO., 28, WHITTALL STREET, BIRMINGHAM.

The "AUTOMATIC" FANLIGHT ADJUSTMENT

For Opening and Closing Fanlights in any position.

The "AUTOMATIC" has a great advantage over all other Openers of this kind, as the projecting arm turns automatically back against the Frame as soon as the Fanlight is closed.

Showing Fanlight partly open.



Fanlight Closed, and the Regulating Bar turned back out of the way of Blinds, &c.



**SPECIAL STRONG
ENDLESS CORDS.**

4 ft. - 7d. each.

6 ft. - 8d. "

9 ft. - 10d. "

12 ft. - 1/1 "

No. 6. Malleable Iron, 4/6; Brass, 6/6 each.
Best Polished Gun Metal, 7/6 each.

Architects will oblige by stating full Name & Address in their specifications.

THE "COGENT" FANLIGHT OPENER. THE "STANLEY" FANLIGHT OPENER

A CHEAP and STRONG OPENER.

Suitable for Small & Medium Size Casements.

FOR
SINGLE LIGHTS,

As Drawn.

WITH 6 ft. IRON ROD.

IRON ... 9/- each.

BRASS .. 12 - "

For OPENING TWO or
MORE LIGHTS

Prices Sent on Re-
ceipt of Particulars.



TO OPEN INWARDS.

IRON 2 9 each.

BRASS .. 4 3 "

TO OPEN OUTWARDS.

IRON ... 3/4 each.

BRASS .. 5 - "

Manufacturers of

Owens' Improved Lock Furniture,

WITH HINGED ROSE.

Made to Open Lights in any position.

ENSOR & CO., 28, WHITTALL STREET, BIRMINGHAM.

ENSOR & Co., 28, WHITTALL STREET, BIRMINGHAM.

THE
“SIMPLEX” HAT & COAT HOOK.

(Registered No. 242466.)

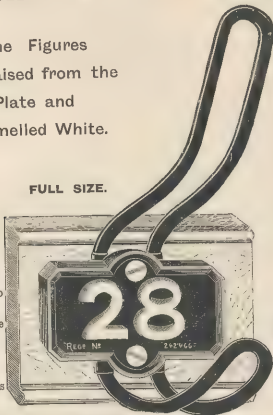
Specially adapted for Schools, Cloak Rooms, or any Public Buildings.

BEST STRONG WIRE BOARD SCHOOL HOOK.

The Figures
 are raised from the
 Plate and
 Enamelled White.

FULL SIZE.

Architects
 are
 respectfully
 requested to
 state
 the full Name
 and
 Address in
 their
 specifications



PRICE

3/3

Per Dozen.

THE

**‘TUDOR’
 HAT AND COAT
 HOOK.**

Drawn 3rd full size.



Price 4/6 per doz.

ENSOR & Co., 28, WHITTALL STREET, BIRMINGHAM.

FLETCHER, RUSSELL & Co., LTD.,

Gas Engineers & Artistic Ironfounders,
MANCHESTER, WARRINGTON, AND LONDON.

THE AMALGAMATED FIRMS OF

THOMAS FLETCHER & CO., Warrington & London. | W. & A. C. RUSSELL & CO., Manchester & London.

National Telephone No. 1089.

WORKS—

Scotia Foundry, Pendleton,
MANCHESTER.

Telegraphic Address: "WARRA," MANCHESTER.

Makers of

KITCHEN MANTELS AND RANGES, with Framed or Set-on Oven;

PARLOUR MANTELS, Fine Cast or Enamelled, Enamel Painted or Berlin Blacked, with Tiles or Ornamental Cast-iron Panels;

OVERMANTELS with **MIRRORS**, Fine Cast or Enamelled;

REGISTER STOVES, Fine Cast or Berlin Blacked, with Bright Bead or Ormolu Moulding, Tiles, &c.;

MANTEL REGISTERS, WASH- HOUSE BOILERS COVERS and UNDER FITTINGS, and GENERAL COTTAGE FIXTURES;

ARCHITECTURAL CASTINGS, PARK SEATS, HALL, SCHOOL and THEATRE SEAT CASTINGS, RESTAURANT TABLES, LABORATORY STANDS, &c.

National Telephone No. 70.

WORKS—

Thynne St., **WARRINGTON.**

Telegraphic Address: "GASERIES, WARRINGTON."

GAS FIRES.
GAS COOKERS,
and GAS APPARATUS.

LONDON Showrooms:

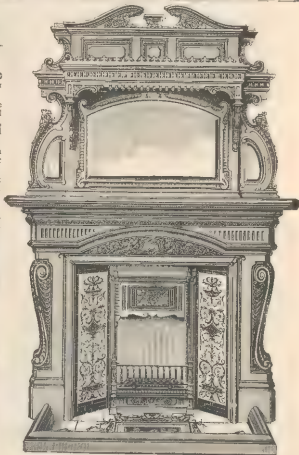
134, **QUEEN VICTORIA STREET, E.C.**
 41, **TABERNACLE STREET, E.C.**

Telegraphic Address: "GASERIES, LONDON."

MANCHESTER Showrooms:

30, **KING STREET.**

Telegraphic Address: "GASERIES, MANCHESTER."



No. 155 MANTEL, and No. 27 OVERMANTEL,
 With Balconies, G Interior, No. 170 Carls, Sanbed Tile Panels, and Tile Hearth.
 REGISTERED DESIGN

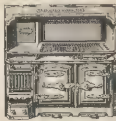
FLETCHER, RUSSELL & Co., LTD.



M.P. GAS FIRE.



No. 414 TABLE.



GROSVENOR RANGE.



"P" Interior Grate.

With "OSBORNE" Back & Front. Size 22x30. Fire 14 in.
The Slats can be supplied, 6 in., 10 in., and 12 in. wide,
by 32 in. high, made up in various designs.



"Cawnpore" Gasfire.

ALL DESIGNS REGISTERED. PRICES CAN BE HAD UPON APPLICATION.

F. EDWARDS & SON,

Stove, Grate & Range Manufacturers,

HOT WATER ENGINEERS, (See also Page 293.)

54, GT. MARLBOROUGH ST., LONDON, W.

ECONOMIC FIREPLACES

EXACTLY ON THE PRINCIPLES

ADVOCATED BY

T. PRIDGIN TEALE,

Esq. F.R.S., &c.

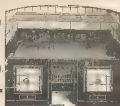
IN HIS LECTURE AT

THE ROYAL INSTITUTION,

FEB 5th, 1886, ON

"The Principles of Fireplace

Construction."

**THE TILE
KITCHENER.**

**DOG GRATES, TILE GRATES
FIRE-LUMP GRATES.
SLOW COMBUSTION GRATES,
SMOKELESS GRATES,
VENTILATING GRATES.**

**WINDOW FITTINGS
FOR REVERSING SASHES.**

(HENDERSON'S PATENT.)

Simplest and Most Effective yet Invented.

In submitting this invention to Architects, &c., we desire to call attention to the extreme Simplicity, the Utility, and Durability of these Fittings, as well as to their small Cost.

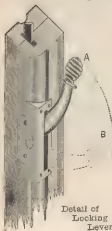
Their Advantages may be noted as under:

1. **SIMPLICITY.**—This is the great merit of this Invention. By simply moving handle A to position B, the Sashes may be reversed at will. There are no springs or intricate gearing to get out of order.

2. **VENTILATION.**—The Sashes slide in the ordinary way, and as they are self balanced they can be opened as widely as desired for Ventilation. When closed they are air and water tight.

3. **UTILITY.**—Cleaning, Paunting, and Glazing can all be done from the inside, thus avoiding the danger of performing these operations from the outside.

4. **ECONOMY.**—The fittings are very durable. Existing windows can be fitted with this Patent in a few hours at small cost.



Detail of
Locking
Lever



Estimates and Practical Advice on Application

HENDERSON BROS., 28, CHURCH ST., BERWICK-ON-TWEED.

JAMES GIBBONS, ST. JOHN'S WORKS, WOLVERHAMPTON.

Telegraphic Address "GIBBONS, WOLVERHAMPTON."

THE BEST*In the Market for***The "Wedge-Tight."**

With Interchangeable Handle
SHOOTS TOP AND BOTTOM, AND HAS
HIGH

PRICES.

5 ft. 3 in. and under, in Iron,
Berlin Black ... 5/- each.
As above, with Brass Handle
8/6 each.
All Brass ... 10/- "

This Bolt makes a Casement
Wind and Watertight.

Adaptable for
OPENING

The "WEDGE-

Simple, Powerful,

CASEMENT BOLT*Wood or Iron Casements.***The "Wedge-Tight."**

To Suit either Hand.
AN INTERMEDIATE FASTENING FOR
CASEMENTS.

PRICES.

If made to Lock 2/6 each extra
If made with Intermediate
Fastening in Iron 1/- each extra
Do. In Brass 2/- "

Lighter Wood Casements can
be used, as only one inch of Wood
is required for Fixing.

Inward or Outward
CASEMENTS.

TIGHT" is

Unbreakable, Cheap.



JAMES GIBBONS' SCHOOL SPECIALITIES, AS ADOPTED BY THE MANCHESTER, SALFORD, OLDHAM, and other SCHOOL BOARDS.



**GIBBONS PATENT WEIGHTED LATCH
LOCK AND HANDLE.**

The above is arranged so that when it is locked the thumb latch can be worked freely, thus preventing the Lock being forced.

PRICES.

No. B 794. Complete with 2	
Iron Handles	9/6 ea.
Ditto 2 Brass Handles	12/6 ..
Ditto 2 Bronze	14/6 ..



**GIBBONS PATENT FANLIGHT OPENER.
TO WORK WITH POLE.**

This has no Springs, and is arranged so as to allow of the Fanlight being fully opened for cleaning.

Prices. No. B 795. Iron, 5/-; Brass, 7/6 each.

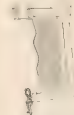


**GIBBONS REGISTERED SPRING FANLIGHT
CATCH.**

TO WORK WITH POLE.

PRICES:

No. B 798. Iron	1/- each.
Brass	2/- ..



**NO. B 797.
WINDOW OPEN FOR
CLEANING**



GIBBONS REGISTERED THUMB LATCH.

This Latch is made with a Special Keep, as shown, which is so constructed as to make it impossible for children to wedge it with pencils, &c., and prevent the door being opened.

PRICES.

No. B 795. Iron, 2/6; Brass, 3/-
Bronze, 6/3 each.



**GIBBONS REGISTERED FANLIGHT OPENER.
TO WORK WITH POLE.**

This Opener securely Locks the Window 12-1/2 in. x 12-1/2 in. or 12-1/2 in. x 12-1/2 in.

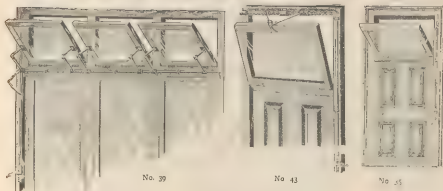
By unscrewing knobs at end of stay the window can be lowered for cleaning.

PRICES.

No. B 796. Iron, 4/-; Brass, 7/6 each.
--

JAMES GIBBONS,

St. John's Works, Wolverhampton.

FANLIGHT GEARING OF EVERY DESCRIPTION MADE TO ORDER.

No. 39

No. 43

No. 45

PRICES.

	To OPEN	1	2	3	4	5
No. 35.—For Fanlight hung at Top, Bottom, or Centre, with Iron Rod and Brass Regulators	12	20	30	40	50	each.
Do. do. all Brass	16	30	40	50	60	..
No. 39.—Do. do. with Iron Rod & Brass Regulators, &c.	23	30	35	40	..	
No. 43.—Screw Apparatus complete, all Brass	30	..	..	..	..	
Do. do. extra strong	30	40	50	60	..	

Firth's Patent Fanlight Opener.**PRICES.**

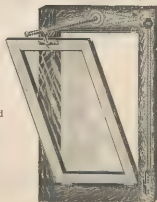
For Ordinary Fanlights and Casements,

ALL BRASS, 12 x $\frac{3}{8}$ inch Rod,

Complete, with Pulley and Cord Rack, 8 6 each.

Do. do. 15 x $\frac{3}{8}$ inch Rod.

12,- each.

**PRICES OF ENDLESS CORDS.**

	s.	d.
1 fath. ..	0	6
2 " ..	0	7
3 " ..	0	9
4 " ..	0	10
10 " ..	1	0
12 " ..	1	3
14 " ..	1	6
16 " ..	1	9
18 " ..	2	0

CORDS ARE MEASURED TRUE—

(← 9 FATH. →)

ENDLESS CORDS EXTRA.

JAS. GIBBONS, WOLVERHAMPTON, REGISTERED DESIGNS.

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MORTISE & RIM LOCKS
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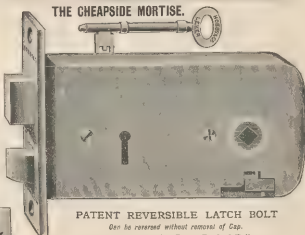
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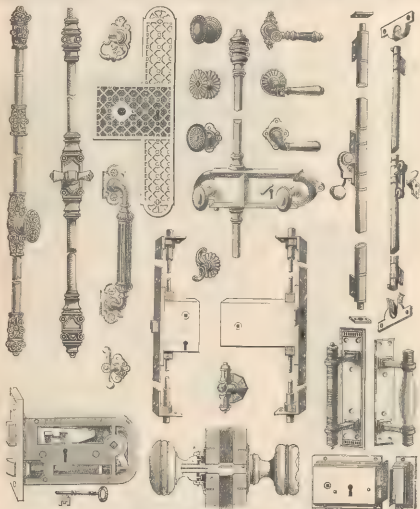
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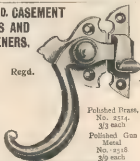
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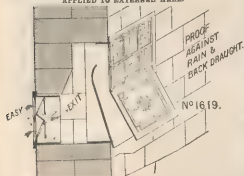
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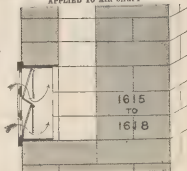
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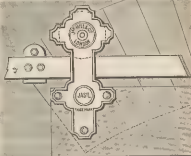
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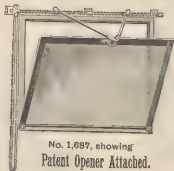


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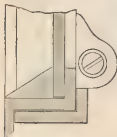
N^o1687



No. 1687, showing
Patent Opener Attached.



N^o1688



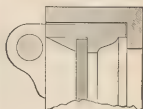
FOR PRICES OF OPENERS
See Preceding Page.



N^o1736 (ON CENTRES)



N^o1688



N^o1735



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Art Metal Work of all kinds.



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This Invention gives Greater Strength, Security, and Lasting Qualities over all other Locks, and is made to Master, Grand Master, and Superior Grand Master Keys.

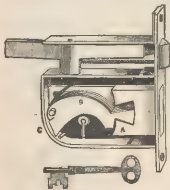


Fig. 1.

*Fig. 1 shows the Lock Bolt drawn in.

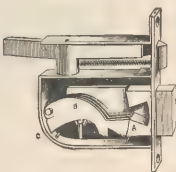


Fig. 2.

Fig. 2 shows the Lock Bolt Shot out.



Fig. 3.

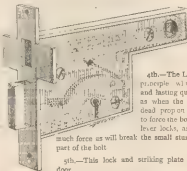
Fig. 3 shows K's Patent Adjustable Striking Plate.

Illustration of K'S PATENT YORKSHIRE MORTISE LOCK,

Which is unlatched by turning the Handle.

1st.—There is no projecting latch at the edge of the door, as the latch is in the striking plate, and secured by the rebate of the door pillar.

and.—The handles can be fixed firmly to the door by long screws above, below, and behind the spindle-hole.



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5th.—This lock and striking plate are suitable for either hand of door.

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These are made to fit in almost any imaginable position, and are always looked upon when open or closed.

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Also made suitable for opening outwards.

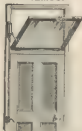
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If dimensions are given, we can make and lower any skylight.

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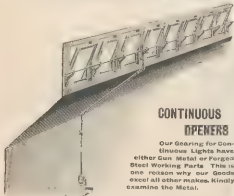
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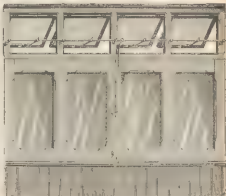
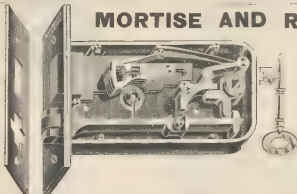
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No. 47	4 in. 6 in. 2 Lever	ditto	..	..	5 7
No. 49	4 in. 6 in. 4 Lever	ditto	..	..	6 4
No. 52	4 in. 6 in. 2 Lever	ditto	..	..	7 0
No. 54	4 in. 6 in. 4 Lever	ditto	..	..	8 0
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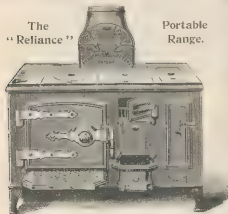
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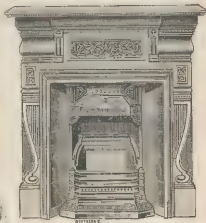
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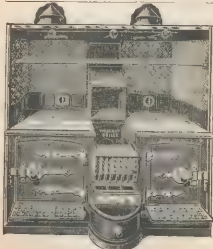
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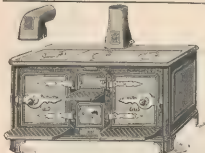


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KITCHENER WITH TILED COVINGS.

With OPEN and CLOSE and LIFTING FIRE arms and other

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	L x d.	L x d.	L x d.	L x d.	L x d.
ge. ins. high x as deep ..	26 12 6	27 12 6	28 2 6	30 17 6	31 0 0
With Wrought ARCH Boiler ..	28 15 0	30 0 0	31 17 6	32 17 6	33 15 0
With Wrought BOOT Shade with Arched Flue ..	30 15 0	32 0 6	34 2 6	35 0 0	36 0 0



No. 87F.—STRONG KITCHENER.

Orem and CAST Side Hosts

$\begin{matrix} 3^d & 3^d & 4^d & 4^d & 4^d & 5^d & 5^d & 6^d & 6^d & 6^d \\ \text{at eye, high } \times \text{ 8 in. deep} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} \\ \text{and high } \times \text{ 5 in. } & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} & \text{d. s. d.} \end{matrix}$
 If with 1/2 in. 1/2 in. 1/2 in. 1/2 in. 1/2 in. 1/2 in. 1/2 in. 1/2 in. 1/2 in. 1/2 in.
 3 feet 3/4 in. 3/4 in. 3/4 in. 3/4 in. 3/4 in. 3/4 in. 3/4 in. 3/4 in. 3/4 in.
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No. 87F "THE MAYFAIR."

No. 138.—DOUBLE OVEN "METROPOLE"
RANGE.

$$\text{glin. wide} \times \text{psin. high} \times \text{exp. deep} \angle 100^\circ \mid \text{glin. wide} \times \text{psin. high} \times \text{exp. deep} \angle 100^\circ$$

Wrought Waxed High Pressure Boiler with Arch Top

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Strong Sheet Top with Regular Door 48in. sq. 54in. sq. each extra.

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GRATES
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the Teale principle,
and with Adjustable
Canopy, acting in the
place of Register
Door.

Size
15, 20, 25 & 30 inches
A. 105 x 115

Price.
14, 20, 25, 30, 35.

Ground, Glazed, and
Berlin Glazed,
with Brass Knobs on
Bars and Feet,
£2 18 6 each
Do. with Electro-
Bronzed Panels in
Canopy,
£3 5 0 each

This Interior can
also be supplied in
Brass with Repousse
Panels, and in cheaper
finishes, if required.

New Illustrated Catalogue of Stoves, Chimney Pieces, &c., on Application.
LARGEST AND MOST COMPLETE SHOWROOMS IN ENGLAND.

MCDOWALL, STEVEN & Co., LTD., 4, Upper Thames Street, London, E.C.
(Late STEVEN BROS. & CO.)

Anglo-American Frictionless Hanging Rollers
FOR SLIDING DOORS.

COW BYRE STABLE AND LOOSE BOX FITTINGS.

Garden Seats, Cast Metal Vases in Great Variety.

COLUMNS, SPOUTS, PIPES, VALLEY GUTTERS, HOT WATER PIPES, &c.

Catalogue of above, and various Implements, &c., on Application.

MANUFACTURED BY

MATTISON & Co., BEDALE.



WILLIAM NEWMAN & SONS' PATENT DOOR SPRINGS,
AND SPRING HINGES.

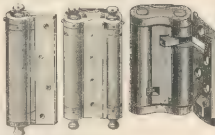


NEWMAN'S MORTON SYSTEM.

The Best Door Spring and
Check for closing Doors without
Bangs

Pressure is Direct, but diminishes pleasantly as Door is opened.

Made also with Newman's Patent Regulator to close Doors with stubborn latch bolt.



NEWMAN'S PATENT REGULATING HELICAL SPRING HINGES.
With Patent Stop to prevent overwinding.

The power can be instantly taken off while the Hinges are being fixed, and afterwards adjusted to close the Door Conveniently. They cannot be overwound.

Made in Brass and Iron, 3, 3½, 4, 4½, 5, 6, and 7 inches



NEWMAN'S PATENT INVINCIBLE

With and Without Pragmatic Check

Will hold Door rigidly to centre, but diminishes in power as Door is opened, allowing comfortable passage through.

The Best Spring to close Door
against wind pressure, and
the most suitable for Banks,
Schools, and other public buildings
Made in sizes to suit all doors.

Architects who have not already specified our Goods are respectfully requested to try them.

Established
over 100 years.

WILLIAM NEWMAN & SONS,
HOSPITAL STREET, BIRMINGHAM.

Established
over 100 years.

O'CONNOR, LIMITED,
GAS AND HOT WATER ENGINEERS.
WAVERTREE, LIVERPOOL. (Telephone No. 2,509)

(Telephone No. 2.599)

O'Connor's Improved Patent Double Action Spring Hinges for Swing Doors.

No.	Fitted with	Spring for light doors up to 24 in wide	Size of Place.	Depth of Box.	With Grays.	With Stone.
No. 10.	" "	" " medium doors " 30-in.	7½ x 5.	1½	18 00	21-
" 11.	" "	" " " " " 30-in.	7½ x 5.	2	25-.	27-6
" 12.	" "	" " stronger leave doors " 33-in.	8½ x 6.	2	30-	33-
" 13.	" "	" " " " " " extra strong doors 36 in.	9½ x 7.	3½	35-	38-

When the doors are exposed to strong winds, No. 10 should be used for doors 24-in. and 27-in. wide, No. 11 for 30-in. and 33-in. wide.
May be obtained retail from any Ironmonger; wholesale from any Hardware Merchant; or direct from the Patentee and Sole Manufacturers, O'CONNOR, LIMITED.

MESSENGER & COMPANY.

SCHOOL BOARD WINDOW OPENING APPARATUS.

ADVANTAGES.

The legs being made with a ratchet joint, no wind can move the lights, and all rattle and noise is prevented.

The lights can be locked open at any point, and can be left open, yet secure, at night.

The handle is movable, so that the lights cannot be tampered with by children.

PRICES.

Single Set, to open one light	17/-
" " two lights abreast	22/-
Double Set, to open three lights, as above	30/-
" " four " " " "	35/-



Price of
**GREENHOUSE
VENTILATING TACKLE.**
Sets of Tackle, 8 ft. long

12 ft.	23
16 ft.	26
20 ft.	28
24 ft.	31
28 ft.	34
32 ft.	37

MESSENGER & CO.,
HORTICULTURAL BUILDERS & HOT WATER ENGINEERS
Works, LOUGHBOROUGH, LEICESTERSHIRE
2nd St. Chel. 22a, Victoria Street,
Woolminster, S.W.

Pure Rain Water.



THE RAIN-WATER SEPARATOR

Prevents the first portion of the rainfall passing into the storing tank. It catches and stores the water when the rain is washed, the rest is pure.

Price from 25/- to 50/-

Medals: Architects Society, 1887, & Health Exhibition, 1884.



DEAR Sir,—My Separators have all worked, on the whole, very well, and I should never think of building a house without making provision for one.—Yours truly, T. S. KENNEDY.

RAILWAY DRIVE, WOLVERHAMPTON, 25th November, 1894.

DEAR Sir,—I have had one of your Separators in use for nearly three years with every satisfaction. Even in this smoky district we have perfectly clean soft water.—Yours faithfully, CHAS. ELWELL.

HIGHAM LAKESIDE, 12th November, 1894.

DEAR Sir,—I have now had one of your Rain-Water Separators in constant use for some years. It works well, I am pleased to say, and gives entire satisfaction. I can do it no more than mention.—Yours truly JOHN C. L.W.

It works well, I am pleased to say, and gives entire satisfaction. I can do it no more than mention.—Yours truly JOHN C. L.W.

C. G. ROBERTS, Haslemere, Surrey.

SIM'S PATENT CASEMENT WINDOW.

HINGED TO OPEN INWARD ABSOLUTELY WATERTIGHT.

JOHN SIM, Architect, Montrose, N.B.

Supplied to H.M. Public Works Office, Royal National Lifeboat Institution, 2a, Diggins, Edinburgh, 1890. Diploma & Gold Medal, Paris, 1889. Diploma, Birmingham, 1889.

Merchandise Watertight. Such Room and Open Inward. Simple, Durable. No Saw required. One Hand Hinge. With or without Springs. Fully automatically when closed. Guaranteed Perfect Storm. Drawings and Particulars on application. USED FOR LIGHTHOUSES.

PRICE—Fittings from 10s. 6d. per Set.



ARCHITECTS PLEASE EXAMINE



THE PALACE STOVE CO.,

(Formerly HARRY HUNT & Co.)

12, New Oxford Street, London, W.C.

HUNT'S NEW "RUMFORD-TEALE" FIRE-PLACES.

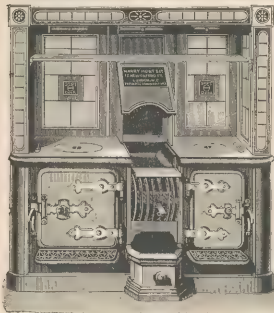
THESE Fire-places are the cheapest and most efficient, and for economy they are unequalled.

They are designed upon the plans advocated by Count Rumford and Dr. Pridgen Teale, with improvements introduced by ourselves, to facilitate setting (or fixing), which has hitherto been the great drawback to this class of Fire-place. These Fire-places not only cost about 30 per cent. less than others of similar construction, but can be fixed by any Bricklayer or Stove setter for one third the cost of the earlier kind, which had to be done by experts.

FIRE-PLACES MADE TO ARCHITECTS' OWN DESIGNS.

Special Hot Air Grates for Warming Large Rooms.

CATALOGUES AND FULL PARTICULARS POST FREE, OR ON APPLICATION AT SHOW ROOMS.



HUNT'S PATENT KITCHENERS,

WITH Adjustable Lifting Grate, open and close fire. Bottom heat to Oven. The most perfect in operation, and the cheapest. Can be seen at our Show Rooms,

12, NEW OXFORD STREET, W.C.,

or full Catalogue will be sent post paid.

No False Bottom required with Hunt's Patent Kitcheners.

This Patent Lifting Grate can be applied to old Kitcheners, without removal, rendering them as efficient as most modern ones. A complete apparatus, ready for fixing to an old Kitchener, 20/-

TESTIMONIALS ON APPLICATION

HUNT'S "HYGIENE" ENTRANCE HALL STOVES.

FOR Warming and Ventilating the Entrance Halls of Dwellings, thereby equalizing the temperature throughout the house, and rendering the Passages, Staircases, and Lobbies, Warm, Healthy, and Comfortable. This Stove will burn any kind of Smokeless Fuel, Coal and Anthracite in particular. The Combustion is thoroughly under control, and it will remain alight continuously throughout the winter, when necessary. The Fire in these Stoves can be seen through the mica panels, which gives a very cheerful appearance.

We have Hundreds of Letters testifying to their efficiency.

THE PALACE STOVE Co., 12, New Oxford Street, London, W.C.

(Formerly HARRY HUNT & Co.)

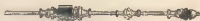
Patentees & Makers of Kitcheners, Warming Stoves, Art Fireplaces, &c.

MARVELLOUS VALUE.

PITHER'S CASEMENT BOLT.

Complete,
6 ft. 6in. long

1^{S.} 2^{D.}

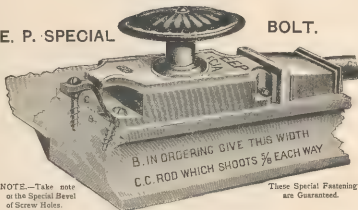


36 & 38, MORTIMER STREET, W.,

And of all Ironmongers throughout the Kingdom.

E. E. P. SPECIAL

BOLT.



NOTE.—Take note
of the Special Bevel
of Screw Holes.

These Special Fastenings
are Guaranteed.

FOR
FOLDING DOORS,
Lock included



PRICE LIST OF E. E. P. SPECIAL.

ALL RODS 6 FEET 6 INCHES LONG.

	1" ROD FOR 14 STALK.	1" ROD FOR 14 STALK.
Al Iron Plain Handle ..	2 9	3 2
Iron Reed Brass Handle ..	5 6	6 -
Iron Bronzed, or Enamelled, any Colour ..	7 -	8 -
Ditto Brass Handle ..	10 -	12 3
All Brass Iron Rod ..	11 3	12 4
All Spd Brass ..	21 -	25 -

RODS OVER 6 FEET 6 INCHES LONG.

4d per foot extra in Iron.
1s " " Brass.

ALL CUTTING OR SPLAYING RODS EXTRA. 10/- EXTRA ON LIST.

LOCKING CASEMENT
BOLTS FOR GARDEN
DOORS.



From 30/- each.

ROBERT RUSSELL & SONS, LIMITED.

PEEL FOUNDRY, DERBY,

Patenters of the "HERALD" Range, Collapsible Oven Range, and "EXCELSIOR" Range;

MAKERS OF

ALL DESCRIPTIONS OF COOKING STOVES FOR ALL PURPOSES.

ALSO

Tile Stoves, Air Stoves, and General Ironfounders.

RUSSELLS IMPROVED PATENT "HERALD" RANGE.

This Range has been considerably improved by the addition of a New Fire containing several New and Valuable Patents, all novel original and most useful. The first consists in adapting the Table in front of Fire to act as a lever, to raise or lower the Fire, thus dispensing with a loose lever, which has hitherto always been used for this purpose. The Table also rests in a horizontal position level with bottom grate at every height. A second improvement in connection with this Fire is in making a Roasting Fire. In every other Range the space occupied by the vertical bars is lost for cooking purposes, but in our New Patent Fire the Vertical Bars can be taken out and the Vertical Bars lifted up to the top of the Fire thus utilizing the whole front of Fire for cooking purposes. This is one of the most simple and useful inventions ever brought out in a Cooking Range. The Vertical Bars are also made of a specially prepared Round Steel constructed on a Patented Principle to avoid bending or twisting, and yet allowing all the Heat from front of Fire to escape for Roasting or Basting. Fig. 1 shows the Fire raised up with Table level with front of bottom Grate. Fig. 2 shows the Fire put aside into a Roasting Fire. The Vertical Bars removed and the Vertical Bars occupying the whole front of Fire Space. The New Patent "Herald" Range is beyond question the highest development of the Cooking Range. All the known weaknesses of the ordinary Range have been eliminated, while on the other hand, every essential of a Complete, Effective and Durable Cooking Range has not only been provided for, but provided for in the best possible way.

Although all Goods are supplied through Ironmongers or Merchants, yet we shall be pleased to wait upon any Architect with a Brass Model of the New Patent Fire, to explain the improvements.

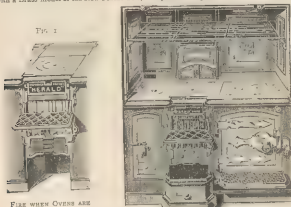


FIG. 1.
FIRE WHEN OVENS ARE
BEING USED



FIG. 2.
ROASTING FIRE.

TESTIMONIALS.

From FRANCES NOEDDEL, Lady Superintendent to H.R.H. the Princess of Wales' Technical School, Sandringham

SANDRINGHAM, NORFOLK, Sept. 22nd, 1892.

SIR—After using the "Herald" Range in H.R.H. the Princess of Wales' school of Cookery for more than a year, I have pleasure in testifying to its thorough efficiency in every way. It uses comparatively little fuel, keeps the fire long on every part of the hot plate, the ovens bake well, and it also supplies us with plenty of hot water.

Believe me, Sir, Yours truly,

CHARLOTTE NOEDDEL,

Lady Superintendent to H.R.H. the Princess of Wales' Technical School
416, UMBAGE ROAD, SHERWOOD'S BUSH, LONDON, W., June 11th, 1895.

DEAR SIR, I enclose cheque to settle your account received yesterday. We are better pleased with the Range the more we have to do with it, it is all the makers claim for it, and a little more and if anyone has any doubts in deciding upon a Range, should be pleased to show the "Herald" Collapsible if you like to send them here.

Yours truly,

E. TURNER.

Mr James Sonthey, Ironmonger, 43, King's Road, Southsea.

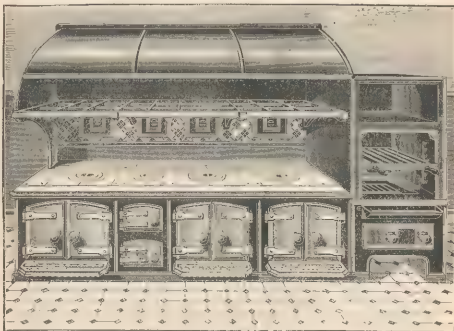
Drawings and Particulars will be supplied direct from the Works, but Ironmongers and Merchants are appointed in every Town as Agents to supply all our Goods.

ROWNSON, DREW & CO.,

225, UPPER THAMES STREET, & 113, QUEEN VICTORIA STREET, LONDON, E.C.

Telegraphic Address: "ROWNSON, LONDON"

Telephone, 7501



COMPLETE SHOW ROOMS for
*Chimney Pieces in Enamelled Slate, Marble, Wood,
and Iron, Overmantels, Ranges, Stoves,
Stove Tiles, Tile Hearths, Fenders, Lavatories,
Baths, Sanitary Appliances, &c.*

~ HOT TABLES CARVING TABLES, ETC. ~
PRICES ON APPLICATION.

ILLUSTRATED Catalogue will be forwarded on receipt of Card.

ROWNSON, DREW & CO.,

225, UPPER THAMES STREET, & 113, QUEEN VICTORIA STREET, LONDON, E.C.

Telegraphic Address: "ROWNSON, LONDON." Telephone, 1901.

WHOLESALE BUILDERS' IRONMONGERS.

Patent Locks and Fastenings of every Description. Nails, Bolts, Nuts, &c.

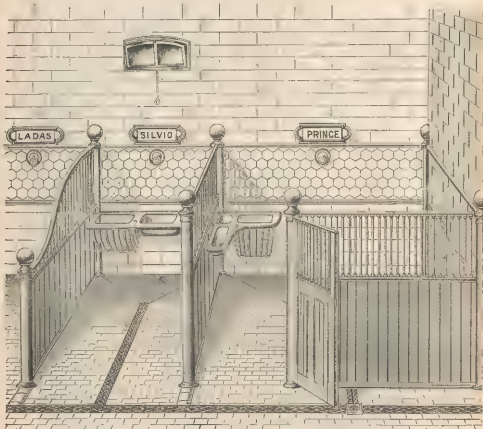


ROWNSON, DREW & CO.,

225, UPPER THAMES STREET, & 113, QUEEN VICTORIA STREET, LONDON, E.C.

Telegraphic Address—"ROWNSON, LONDON."

Telephone, 1925.



Stable Fittings and General Castings

ROWNSON, DREW & CO.,

225, UPPER THAMES STREET, & 113, QUEEN VICTORIA STREET, LONDON, E.C.

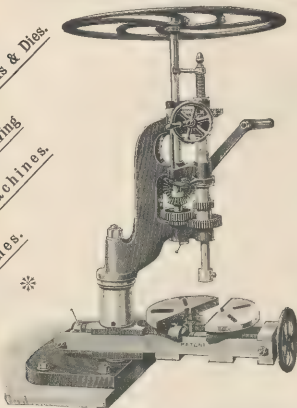
Telegraphic Address "ROWNSON" LONDON

Telephone, 1901.

*
Stocks & Dies.

*Screwing
Machines.*

Lathes.
*



*
Machinery.

Pulleys.

Shafting.
*

No 1674.—Drilling Machine Fitted with Patent Combined Parallel Vice and Revolving Chuck Plate.

Iron, Steel, & Metal Merchants. Engineers' & Contractors' Plant.
IRON WAREHOUSE—111, TOOLEY STREET, S.E.

Telephone Address—
"WISHAW, BIRMINGHAM."

ESTABLISHED 1799.

TELEPHONE
No. 27

WALTER SHAW & CO.,

16 & 17, PARK STREET, BIRMINGHAM.

**Builders' Ironmongers, Ironfounders,
MERCHANTS & MANUFACTURERS.**



ALL DESCRIPTIONS OF
SCAFFOLD CHAINS, BLOCK, CABLE & CRANE CHAINS.
WROUGHT NAILS OF ALL SORTS.

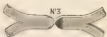
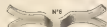
CUT, PATENT PRESSED, CAST, MALLEABLE NAILS; WIRE, ZINC & COPPER NAILS.
Locks, Bolts and Nuts, Coach Screws, Rivets, Latches, &c.

IMPROVED STEEL BUTT HINGES.

IMPROVED WESTON'S DIFFERENTIAL PULLEY BLOCKS,

With Barseley's Patent Self-Adjusting Roller Chain Guides.

WROUGHT AND CAST IRON WALL TIES.



No. 4 Block

Tiled Grates, from 11/-
each. Oven Grates.

Kitchen Ranges.

Stable Fittings.

Chimney Pieces in
Marble, Enamelled
Slate, Iron, and Stone.

Bain Water Gutters

and Pipes.

LOCK FURNITURE IN EBONY, OAK, WALNUT, COCOA, AND OTHER WOOD.
With FINGER PLATES TO MATCH

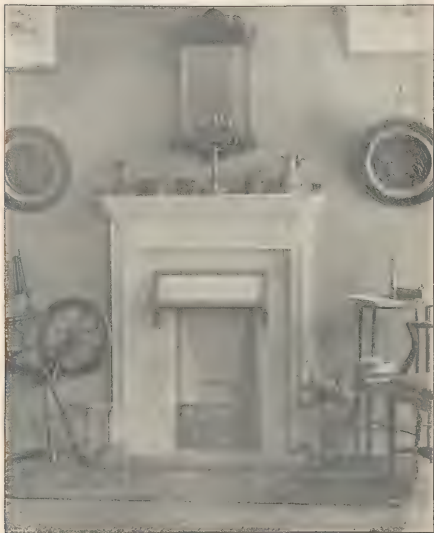


No. 512

ART BRASS WORK IN FINE CAST BRASS & COINAGE METAL.

A

Leeds, and 58, Berners Street, London, W.



THE "ECONOMISER" FIRE-PLACE.

Sun	Mars	Nor	x .40	" "	1.2	12	PA	PURTON	OVR		(	6
	Dn		.8m	" "	2.1						1	5
	e plane				FPE +	4m		in the	all	and	d.	OVER
+ 2 -	- x	m	n	r	H =	"		.	&	I n	Haw	5 0 0

1. The above is a description of the Properties of any colour, which is	0.00
2. The above is a description of the Properties of any colour, which is	0.00
3. The above is a description of the Properties of any colour, which is	0.00
4. The above is a description of the Properties of any colour, which is	0.00
5. The above is a description of the Properties of any colour, which is	0.00
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9. The above is a description of the Properties of any colour, which is	0.00
10. The above is a description of the Properties of any colour, which is	0.00

B

SEC. H.—IRONMONGERY AND HARDWARE.



THE "BLOOMSBURY," No. 8
13, 15, 17, or 21 inches wide,
inside measure.

THE
TEALE FIRE-PLACE
COMPANY,
LEEDS.

And 53, BERNERS ST.,
LONDON, W.

LIONEL H. TEALE and

R. NOUSLEY SOMERS.

Sole Makers of the Patent

FRONT HOB FIRE-PLACE.

No other firm has
Mr. T. P. Teale's sanction to
name any fire-place
the "Teale" Fire place or
Grate

ESTIMATES GIVEN FOR

Hot Water Heating and
Supply Apparatus.

Illustrated Catalogue of
Fire places, Mantels, Kitchen
Ranges, &c.
on application.



THE "ALBEMARLE," No. 6
17 inches wide, also
15 inches wide, but without the ornament on
the hood. Inside measure



THE "KENSINGTON," No. 10.
15, 17, and 21 inches wide,
inside measure.



THE "WORCESTER," No. 9.
13, 15, 17, and 21 inches wide,
inside measure.

JOSHUA W. TAYLOR, Ltd.,

Telegrams:—
"RATIONAL,"
BOLTON."

Bradford Street, & Bury New Road, Bolton.

NATIONAL
TELEPHONE No.
159.

MAKERS OF

THE "RATIONAL" FIRE-PLACE.

(J. W. TAYLOR'S PATENT.)

Suitable for Sitting Rooms, Offices, &c.

No. 1, "RATIONAL."

The following Advantages are secured:—

**Complete Combustion of Coal and Cinders.
Less Labour in Brushing up, &c.**

No Black-leading.

Greater Heat.

No Cinders to carry out.

Easily Fixed to any existing Mantel

Openings.

More Artistic than the Ordinary Grate.

Less Draught in the Room from Windows,

Doors, &c.

Completely and economically consume Coal, Wood, or Peat. There is not an objectionable raised hearth; and air inlets beneath the fire-bars are totally abolished, along with their attendant evils. The ash-pen is easily removed, and acts as a shield to prevent cracking the fire-clay trough.

ARCHITECTS' SPECIAL DESIGNS EASILY ADAPTED.

Instructions for fixing sent out with each Fire-place.

We have also an arrangement for conveying Ashes directly into cellar.



No. 4, "RATIONAL." Regd. design 239,856

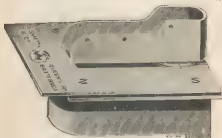
ILLUSTRATED CATALOGUE ON APPLICATION.

ARCHIBALD SMITH & STEVENS,

Telegraphic Address
"Hydraulics, London"

QUEEN'S ROAD, BATTERSEA, S.W.

MANCHESTER Norton Street, Greengate, Salford.
LIVERPOOL WARREN WILLIAMS, 16, Commerce Chambers, 16, Lord Street, Liverpool.
GLASGOW—MONKHOUSE CARTMELL, 87, Maxwell Street, Glasgow.



PATENT ADJUSTABLE "JANUS" DOOR SPRINGS.

THIS is the original and well-known "SMITH'S" SPRING
To prevent the substitution of cheap imitations, Architects
are respectfully desired to specify Name and Address in full.

SMITH'S PATENT "MODEL" DOOR SPRING.

THE "MODEL" SPRING is of the same type as our
"Janus," but smaller in size, and suitable for a lower
class of building. It possesses the same strength as the
"Janus" Spring

REDUCED PRICES OF "JANUS" DOOR SPRINGS.

No.	Size.	Price with Brass Trough Shoe	Price with Iron Strap Shoe	Extra for Outer Box	Lubricant and Screws
1	Y	35/0	33/0	5/0	1/8
2	Z	60/0	55/0	9/0	4/0

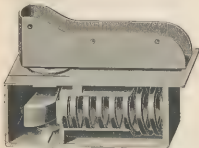
No. 1 Spring is suitable for Internal Doors up to 7 ft 9 in wide.
No. 2 Spring is suitable for larger and External Doors

Outer Boxes are recommended when Springs are let into Tile,
Mosaic, Cement, or similar doors. The Spring may then be
removed for repairs without cutting up the Floor.

REDUCED PRICES OF "MODEL" DOOR SPRING.

Size.	Maximum Width of Door	Price with Brass Trough Shoe	Price with Iron Strap Shoe	Extra for Outer Box
X	30 inches	23/0	21/6	3/6
Y	36 "	26/0	24/0	3/6
Z	42 "	28/0	25/0	3/6

Synthetic Springs per pair, X size, with Brass Shoes, 87/6
Lubricant and Screws, 1/8 per Spring.



PATENT "BATTERSEA" DOOR SPRING.

A HIGH-CLASS London-made Spring at the lowest price yet
offered. It is the simplest made, having only Two Moving
Parts. Samples on Trial.

PRICES.

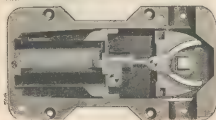
Size of Spring.	Maximum Width of Door	Price with Brass Trough Shoe	Price with Iron Strap Shoe	Extra for Outer Box
X	30 inches	19/0	17/0	3/6
Y	36 "	24/0	21/0	3/6
Z	42 "	26/0	23/0	3/6
Z 1/2	Larger or Exposed Doors	28/0	25/0	3/6

STEVENS' & MAJOR'S PATENT HYDRAULIC SPRING AND CHECK.

THIS CHECK SPRING was the first Spring placed on the
market, which combined the three functions of Spring,
Hinge, and Check, and in spite of the numerous imitations
which immediately followed, it maintains its foremost position.
It is equally applicable to Double or Single Acting Doors.
Internal or External.

SIZES AND PRICES.

For Internal Doors up to	Size.	Width Brass Shoe.	With Iron Strap Shoe.	Extra for Double Acting only. Outer Box.
24 inches wide	Xo	1 6 0	1 4 0	4 0
30 "	X	1 8 0	1 5 0	4 0
36 "	Y	1 13 0	1 9 0	5 0
42 "	Z	1 16 0	1 12 0	5 0
48 "	Za	2 0 0	1 16 0	5 0



ESTABLISHED 1704.

CHARLES SMITH, SONS & CO., LTD.,**Deritend Bridge Works, BIRMINGHAM.****12, Oxford Circus Avenue, LONDON.****6, John Dalton Street, MANCHESTER.***Glasgow Agents—Messrs. McGEACH, KEMP & CO., 159, Buchanan Street, Glasgow***LOCK-MAKERS, HINGE-MAKERS, BRASSFOUNDERS, AND ART METAL WORKERS.**

Wheelbolt and other Mortice Locks, Suites of Locks for Prisons, Lock-ups, Locomotive Assemblies, Workhouses, Public Offices, Mills, &c. Hinges of all kinds, Floor Springs and Air Checks, Door Furniture, Lock and Finger Plates, and Brass Handles in real Bronze Metal, Brass, Iron and Wood. Bell Fittings and Patches, Window and Casement Fittings, and Electric Bell Work.

GAS & ELECTRIC LIGHT FITTINGS. Lamps, Pendants, Brackets, & Standards.

Special designs in Bronze Metal, Brass, and Wrought-Iron, suitable for Churches, Chapels, Public Buildings, Schools, and all domestic purposes.

WROUGHT IRON WORK. Casements, Gates, Railings, Balconies, Staircases, &c.

Estimates and Designs for all kinds of Wrought and Cast Iron Work, Cell Fittings, including Doors, Windows, &c.

MANTELS AND GRATES. Register Grates, Fenders, Fire Irons, &c.

All to our own Special Designs, as Catalogue, suitable for Architectural work.

Patents.

PATENT INDICATING SILENT ACTING LOCKS FOR ASYLUMS,
 PATENT CLUTCH DOOR FURNITURE, ABSOLUTELY SECURE.
 PATENT ECCENTRIC SASH APPARATUS, No. 299, for Opening & Fastening Sashes.
 PATENT WORM AND RACK ACTION FANLIGHT APPARATUS.
 PATENT CHECK ACTION SPRING HINGE, Direct Action, Working with Air Piston.
 PATENT (MARLEY'S) BALL BEARING AXLE PULLEY.
 PATENT THEATRE PANIC BOLTS.
 PATENT INTERLOCKING CASEMENT.

MORTISE LOCKS.

For Good Houses and Offices 6 in Strong 2 Lever 2 Bolt Brass Bolts Wheel bolt Lock No 508. 6 3 6 in., No 510, 7 6 in., No 512, 9 in. For Public Buildings No 514, with Bronze Metal Fittings, 11 For Asylums and Better Class Public Buildings, Extra Strong, No 550, 15 in.

*Locks made on order to suit any at same prices, keys being charged extra. If made to lock twice, 1/- per lever extra***LOCK-UP AND CELL FITTINGS.**

HINGES.	INSPECTION APPARATUS. FOOD DOOR APPARATUS.	KEYS. RELEASE CELL LOCKS. PLATE STAPLES. CELL DOORS.							
4½ in best, extra strong wrought butt Hinges, specially made for Prisons, Set of 3								No 2020	0 5 9
Best, with steel gauze and thick glasses								No 3129	0 3 0
Improved, all metal rebated, fitted with springs & lock complete in iron frame ready for fitting								No 3329	0 17 6
Best, well finished for food door traps								No 3329	0 17 6
Best regulation, extra strong plate release cell locks, to lock twice and spring ..								No 050	0 2 0
When wood jambs are used								No 537	0 1 6
6 ft. 1½ in x 2 ft. 4 in. x 2½ in. best solid panelled Red Deal cell doors, in solid double rebated iron frames, with all fittings complete, ready for building in position								No 5334	12 10 0
Do. do. do. in wood frames								No 5335	10 10 0

FOR CELL WINDOWS SEE CATALOGUE

ASYLUM FITTINGS.

In Asylum work we have had great experience, having had out and executed the work for the following Asylums:—Berks, Bristol, Broadmoor, Bucks, Chester, Cornwall, Derby, Essex, North, South, East and West Ridings of Yorkshire, Lancashire, Nottingham, Surrey, Middlesex, Warwick, and also New South Wales and New Zealand.

Our PATENT SILENT INDICATING LOCKS FOR ASYLUMS, brought out in conjunction with Dr. Moody, of the London County Council, Medical Superintendent of Cane Hill Asylum, and Patent Sash Locks, are so well known that a description is not here necessary, but we shall be happy to submit samples on application.

CHARLES SMITH, SONS & Co., LTD.,

BIRMINGHAM, LONDON, AND MANCHESTER.

MARLEY'S SCHOOL LATCH.



1 1/2 in.

MARLEY'S PATENT
BALL-BEARING AXLE
PULLEY

PULLEY WHEEL



PATENT THEATRE PANIC BOLTS.



MARLEY'S SCHOOL LATCH.

- 4 in. Mortise Weighted Latch, with a silver Ornamental Brass Furniture, as shown, complete for fixing, No. 350, 10/6. Bronze Metal, 12/6.
4 1/2 in. do. to lock, No. 359, 13/6. Bronze Metal, 15/6.

MARLEY'S PATENT BALL-BEARING AXLE
PULLEY.

The advantage of this Pulley, which has already been approved and specified by many of the leading Architects, is that the Axle and Wheel form one piece, which runs in its contraction—the Wheel and Axle being made of Brass or Gun Metal.

Grooved Ball bearings. The above engraving shows the simplicity of its construction—the Wheel and Axle being made of Brass or Gun Metal, working on ten Balls each side.

For opening and closing heavy windows these Pulleys are specially adapted there being practically no wear or friction, they work with the greatest ease, and are strongly recommended for Schools, Public Buildings, &c.

	2 in.	2 1/2 in.	3 in.
No. 660 -- Annealed Steel Face and Brass Wheel, Malleable Iron Cheeks and Bushes ..	24/-	28/-	33/- per doz.
No. 661. Cast Brass Face Brass Wheel, ditto ditto ..	30/-	36/-	42/- "
No. 662 -- Cast Metal Face and Wheel ditto ditto ..	36/-	42/-	50/- "

NOTE.—The 2 1/2 in. size should be used, as the full benefit of the Ball-bearings is not obtained in the smaller sizes.

PATENT THEATRE PANIC BOLTS.

No Springs. No Complicated Simple Lever Action. Any pressure applied in front of the Cross Bars or downward pressure opens the door. Approved by the London County Council, Frank Verry, Esq. (Architect to the Lord Chamberlain), C. J. Phipps, Esq. F.S.A. the celebrated Theatre Architect, and already adopted in the leading Theatres and Public Buildings throughout the country.

	SINGLE DOORS. (1 Bolt.)	PAIR FOLDING DOORS (1 Bolt with extra Cross Bar.)	PAIR SWING DOORS. (4 Bolts.)
No. 7, 31 Brass	45/-	60/-	90/-
Iron	25/-	35/-	50/-
Stronger, for very large and heavy doors, No. 773, Brass ..	65/-	90/-	130/-
Iron	37/6	54/6	75/-
If Bolts connected for rebated doors	Extra	5'-	5'-

*Follow Catch, to prevent Bolts dragging when not in use, 3/6 extra. Key 2/- extra. Special Brass Plate Lock, for releasing Bolts from outside, with Drop Ring Handle complete 3/6.

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STEEL & GARLAND, LTD.,**WHARNCLIFFE WORKS,
SHEFFIELD.**

London Showrooms: 9, CORK ST., BOND ST., W.,

Manufacturers of every description of Stove Grates, Fenders, Curbes, Rests, Brasses, Chimney Pieces, &c.

THE "MARLBOROUGH GRATE"Garland's Patent,
No 13355**THE "ROYAL YORK" PATENT ADJUSTABLE FIRE**T. S. Garland's
Patent, 2004

GIVING THE BRIGHTEST & MOST EFFECTIVE FIRE, WITH SMALLEST CONSUMPTION OF FUEL.



The Canopy can be
regulated at pleasure, and
can be removed for flue
Grate or sweeping
chimney.

SECTION OF MARLBOROUGH GRATE.

Bars can be raised or lowered
at pleasure.

No obstruction to Heat.

**No. 1530 GRATE.****No. 1550. ROYAL YORK FIRE AND THRIFT BAR****ARRANGEMENT**

No. 1550a. Suitable for Public Buildings, Board Schools, &c.

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Grates may be seen with fire burning at the Show Rooms.

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These Sash Lines are acknowledged by all who have used them to surpass any other Material ever introduced for hanging heavy or light Sashes. They are, as the name implies, indestructible as far as ordinary wear is concerned. **THEREFORE THE CHEAPEST.**

THESE ILLUSTRATIONS ARE FULL SIZE.

LARGE SIZE.



MIDDLE SIZE.



FINE SIZE.



THE EVERLASTING CATGUT SASH LINES are placed in many of the best Public Buildings in the United Kingdom, and are extensively used for all heavy Sashes in the Manchester Warehouse, as well as in first-class Mansions, where Strength and Durability are of importance.

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VORNBERGER, HIRSCH & CO., LTD.,
Rosebank Works, Clayton, Manchester.

—❧ AND SOLD BY ALL IRONMONGERS. ❧—

LOCKS & SAFES.

TUCKER & REEVES.
Improved **PANIC LATCHES, &c.**

IRON & STEEL POWDER & THIEF PROOF STRONG ROOM DOORS,
LOCK FURNITURE, &c., &c.

MEDAL, LONDON, 1862.

Two Silver Medals, International Exhibition, 1884. Silver Medal, Inventions Exhibition, 1885.

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TUCKER'S New Silent Latch Lock and Security Lavatory Lock, for
Hospital Wards, Asylums, &c., &c.,

Lately fixed on INFIRMARY, St. GEORGE'S IN THE EAST, PADDOCK ROOM, BRITISH MUSEUM and GRAYESND HOSPITALS, &c.

TUCKER'S PANIC LATCHES require no Projecting Bars or Levers to automatically open the doors.

Address—110, CANNON STREET, LONDON, E.C.

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TONKS, Ltd., BIRMINGHAM.

SHOW ROOMS LONDON 67 Holborn Viaduct, E.C. BIRMINGHAM: 201, Murray St. Telegraphic Address: 'BRASS BIRMINGHAM'

IMPROVED PATENT KEYED DOOR-FURNITURE,

AS USED IN ALL THE LONDON BOARD SCHOOLS.

TRADE MARK.



TRADE MARK.



In the Keyed Furniture, made according to the original patent, a difficulty is experienced in fixing the screws of the inner case, an operation which has to be performed after the knob is keyed up in position, and the cover case is loose on the neck of the knob, when insufficient room is left for the proper use of the screw driver, but, notwithstanding this inconvenience, the original Patent Keyed Furniture acquired, and has maintained, the reputation of being the most perfect Furniture in use up to the present time.

METAL PROTECTED WATERPROOF (M.P.W.) SASH CORD.

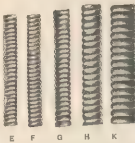
HOOHAM & TONKS, PATENTEES

ADVANTAGES—

- Durability.
- Inappreciable Stretching.
- Flexibility & Freedom in Bunning.
- Slightly & Ornamental Appearance.

No. E for Sashes up to 12 ft.	12 ft.
No. F ditto " " 12 ft.	12 ft.
" G " " 12 ft.	12 ft.
" H " " 12 ft.	12 ft.
" K " " 12 ft.	12 ft.

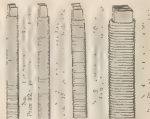
Sold in quantities of not less than three dozen yards of a size.



STEEL RIBBON SASH LINE.

HOOHAM'S PATENT.

This Line is formed of several bands of water-proof wire covers, woven round of copper wire, and so prepared as to resist corrosion. It is very neat in appearance, perfectly flexible almost instantaneously, does not stretch, and is much cheaper than the ordinary lines and chains.



TONKS' PATENT SHELF FITTINGS

AS USED IN THE

Public Libraries of Liverpool, Glasgow, Birmingham, &c.

SOLE MANUFACTURERS

OF

Nicol's & Houghton's

PATENT

SAFETY

WINDOWS.



IN 6 FT. LENGTH			
Strip Iron ..	2553	..	48 per foot.
Strip Brass ..	2586	..	100
Any other Lengths, 10. per foot extra.			
PLATES FOR DITTO.			
Iron ..	2552	..	per gross
Brass ..	2585	..	100

These Fittings are specially adapted for BOOKCASES or other shelves, the adjustment of which has from time to time to be altered to suit the varying requirements of a Library, &c. The Plates (which are made of steel) will, if the shelf be perfectly rigid, sustain without strain more than half a ton.

FULL PARTICULARS ON APPLICATION.

PLEASE ADDRESS IN FULL.

EDWIN VERITY,

42, SWINGATE, LEEDS.



No A 105

This Drawing represents my Improved Dead-weight Mortise Lock, which I make with Iron or Gun Metal Case, with which I combine the advantage of the Double-end Latch Bolt, which enables it to do for either hand. Another important novelty in its construction is that it exerts an equal pressure, both ways of turning the knob, and double the pressure on the Latch Bolt of any other make.

PRICES.

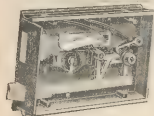
	1	2	3	4 Lever.
Iron Case ..	5/-	6/-	7/-	8/- each.
Gun Metal ..	12/-	13/-	14/-	15/- ..



No A 106

This Drawing represents the New Patent Spiral Mortise Lock. It will be seen that a Spiral Spring works both the Latch Bolt and Lever. It is a form of Spring that rarely ever fails, and the four years it has now been on the market I have not had a single Spring failure. It is also at popular prices, viz. —

A 300. 6 in Japanned Case	24/- per doz.
A 310 Bright Case, Double Bashed	36/- ..
A 320 Stronger	50/- ..



No A 107

This Drawing represents my latest Improved Rim Lock. It is Palace Motion, with Scotch Spring Brass or Iron Bolts, Bushed Keyhole and follower, and can be recommended as a really sound and serviceable Lock, with Solid Brass Ward.

PRICE.

6	7	8
2/9	3/4	4/6 Brass Bolts.

I also make Rim Locks from 12, per dozen

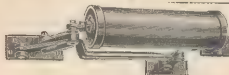
VERITY'S IMPROVED SIMPLEX FURNITURE.

This improvement consists in the greater accuracy of adjustment and permanent security against coming off. A loose collar with square-hole slides on the spindle and the screw sets this fast without coming in contact with spindle, and consequently it cannot be worked loose. They are made in Brass, China, and all kinds of Wood.

PRICES.

Oak, Ebony, or other Wood	2/6 to 4/- per set.
Brass	1/- to 5/- ..
China	2/6 to 4/- ..

VERITY'S IMPROVED DOOR CHECK



Is constructed on a principle mechanically better than many others now in the market, it can be instantly dis-connected and re-connected, which will be obviously seen in a great advantage in many cases, particularly for oiling and repairs. It is also greatly reduced in price.

PRICE In Malleable Iron, from 14/- to 30/-
In Gun Metal, from 22/- to 42/-

SEVEN GOLD & SILVER MEDALS HAVE BEEN AWARDED FOR SUPERIORITY OF OUR MANUFACTURES

Please Address in full—

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42, SWINEGATE, LEEDS.



The most Powerful Self Locking Motion is applicable to one or any arrangements of Lights whether fixed Vertically or Horizontally, and used with our Rolling Bar and Improved Adjustable Arms to each side of light, it for as the most complete and strong arrangement yet introduced. Price for Single Lights to 8 feet rod, Brass Mounts Malleable Iron Rods 16" 24" each 35 Double Arms 29



Fig 1.—This **PATENT CHAIN OPENER** (over 11,000 now in use) has no projecting arm, and for simplicity, efficiency, and the absence of all objectionable features, it has no rival. It is usually supplied to fix in centre, as shown, but can be had to fix on either the right or left hand side. It is also made to work with window sticks.

PRICES

	5in.	10in.	15in.	20in.
In Iron ..	4	4 6	5	10
Brass, polished	5 1/2	6 1/2	10 1/2	15 1/2



Fig. 25 This **EPICYCLOIDAL QUADRANT** is strong, and exerts great power in its movement, and will force the window tight up and hold it firm in any position when open. Any cord will do, but by preference one that can be spliced should be used. It is equally applicable to any form of light, hinged top, bottom, sides, or on pivots.

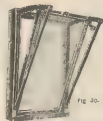
PRICES

	12in.	16in.	20in.	24in.
Iron	4 6	5 1/2	6 1/2	8 1/2 each.
Brass	6	9	11	14 ..

Fig. 30—Is our **IMPROVED COMBINED WROUGHT IRON WINGS FOR WOOD LIGHTS**, with adjustable stay and fastener operated by a window stick or with cords, the wings being screwed on each side and glazed prevents side draughts experienced with the faultlight alone, and are of special advantage in Hospitals, Asylums or any Public Buildings.

The Prices, Ironwork and Fastener complete, are 10/- each. Manufacturers of Steel and Gun Metal Casements, open inwards or outwards, with machine-made joints, and hand brazed, and warranted wind and waterproof.

Sections and Prices on receipt of specification.



THE SECURITY SASH FASTENER has many objects to recommend it, viz. It lifts the top sash if 3/4" below the level; it then draws the two so tight together that they cannot rattle in high winds, and further, it is quite proof against entrance from the outside it has no spring or loose part about.

PRICES

	No 1.	No 2.
Malleable Iron, Brass Knob & Pawl 8	10/-	per dor.
Brass, Dead Dipped	14/-	16/-
Gun Metal, polished	17/-	21/-



EPICYCLOIDAL WINDOW HOLDER

My New General Catalogue of Special Inventions for the Building Trade can be had free by post. New Edition in February, 1896.

ESTIMATES GIVEN ON RECEIPT OF SPECIFICATIONS.

JOHN WALKER & WORSEY,

Lock and Safe Manufacturers and
Brassfounders, **BIRMINGHAM.**

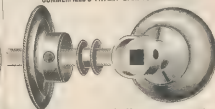
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IRONMONGERS, BIRMINGHAM.

Triumph Safe Works, **SEDGLEY.**

TELEPHONE NO.

JOHN WALKER & WORSEY'S PATENT "ECLIPSE" FURNITURE.

SUMMERFIELD'S PATENT LOCK FURNITURE.



No.	Stamped Brass Run	1 lb. 10/6	1 lb. 10/6	1 lb. 10/6
100	Monite	4/6	4/6	4/6
101	Cast	4/6	4/6	4/6
102	Monite	4/6	4/6	4/6

No.	Stamped Brass Run	1 lb. 10/6	1 lb. 10/6	1 lb. 10/6
103	Monite	4/6	4/6	4/6
104	Cast	4/6	4/6	4/6
105	Monite	4/6	4/6	4/6

No.	Stamped Brass Run	1 lb. 10/6	1 lb. 10/6	1 lb. 10/6
106	Monite	4/6	4/6	4/6
107	Cast	4/6	4/6	4/6
108	Monite	4/6	4/6	4/6

PATENT INDICATING BOLT.



THE "SCHOOLBOARD" NUMBERED
HAT AND COAT HOOK.



With Brass
Numbers . . . 4/6 Gds.
With Painted Brass
Numbers . . . 3/6 Gds.
With Painted
Numbers . . . 2/6 Gds.

THE "TRIUMPH" ROD FAULTLIGHT
ADJUSTMENT.



FIX LOCKS



MORTICE LOCKS.



With Brass
Numbers . . . 4/6 Gds.
With Painted Brass
Numbers . . . 3/6 Gds.
With Painted
Numbers . . . 2/6 Gds.

MADE TO OPEN ANY
NUMBER OF LIGHTS.

THE "EDMUND" OPENER.



PATENT FLOOR SPRING AND CHECK.

For Better Doors to close to centre, with Adjustable B. 20 in.

For Better Doors to close to centre, with Adjustable B. 20 in.

For Better Doors to close to centre, with Adjustable B. 20 in.

SASH FASTENERS.

With Brass
Numbers . . . 4/6 Gds.
With Painted Brass
Numbers . . . 3/6 Gds.
With Painted
Numbers . . . 2/6 Gds.

WALKER'S PATENT
"DUPEX" SELF-LOCKING.



MAKERS OF ALL KINDS OF LOCKS FOR
ASYLUMS AND PRISONS.

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on Application.

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The "WELL FIRE." (BOWES' PATENT)

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Cooking Apparatus for Large Establishments
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Steam and Gas Cooking Apparatus Central Cookers,
Hot Plates Hot Closets Carving Tables. Grilling
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KITCHEN RANGES,

FOR ORDINARY KITCHENS, from 2 to 6 ft. in width

Boilers.
Cisterns.
Coppers
Cylinders
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Glazed with Semi-Prisms. Convex, Duplex, or Rough
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Also Particulars of Marble, Tiles, and Door Furniture.

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GEORGE WRIGHT & CO., 155, Queen Victoria St., London, E.C.

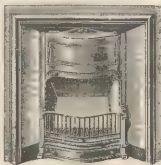
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THE PATENT OSBORNE GRATE.

Established 1854.



668a



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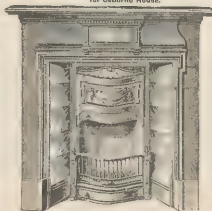
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678



670a



679



620



683c



64611



670a



66511



67811



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GEORGE WRIGHT & CO., 155, Queen Victoria St., London, E.C.

Works BOTHERHAM.

Established 1854.



670



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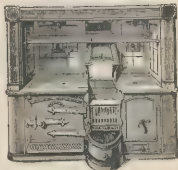
682



651



656



615



630



656



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104



118

BATHS AND LAVATORIES, ETC.



681



RADIATORS



INSPECTION COVERS
MANY PATTERNS AND SIZES

CHARLES WINN & CO.

BIRMINGHAM.

Saint Thomas' Works, Granville Street.

THE BLOUNT DOOR SPRING AND CHECK.

Once Tried, Always Used.
THE VERY BEST.



NO LUBRICATION NEEDED.

CAN BE FIXED UNDER A FANLIGHT.

NOISELESS, STRONG, and DURABLE.

Perfect in Action.

MORE THAN HUMAN—NEVER FAILS.

The unique point about this contrivance is that when properly adjusted it closes the door smartly right up to the striking plate, then checks the swing and quietly latches the door. There is no interval.

For PARTITION DOORS.

A size, **20/-**

For ORDINARY DOORS.

B size, **25/-**

For HEAVY DOORS.

C size, **30/-**

EASILY FIXED.

A PERFECT MECHANICAL DEVICE.

LATCHES THE DOOR.

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15, Lord Street.

GLASGOW :

94, Hope Street.

NEWCASTLE-ON-TYNE :

26, Grey Street.



Section J.

Metal Work.

FIRMS REPRESENTED IN THIS SECTION.

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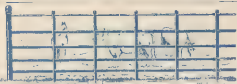
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745

Chandos Works, Chandos Street, **LONDON, W.C.**

ESTABLISHED 1785.

BAYLISS, JONES & BAYLISS'



CONTINUOUS BAR FENCING.

With Patent Built Two Steel Standards, and Patent "Champion" Steel Plates.

Price: No 13978. Fence, 3 ft. 9 ins. high, from ground, with five horizontals, top, 1/2 in. diameter, four lower 1/4 in. x 1/2 in. flat iron. Standards placed 3 ft apart 1/6d per yard. Carriage paid to most Railway Stations in England in lots of 30 yards and upwards.

If 3 ins. higher, 1/6d. per yard extra. If Varnished, 1/6d. or Painted, 1/6d. per yard extra.

Prices for Gates to match on application.

COPY OF TESTIMONIAL.

July 4th, 1887.

"Gentlemen.—We have put up just upon Two Miles of your No. 13978. Continuous Fencing, with Built Two Steel Standards and Thrust Plates. It is very easily fixed, and gives entire satisfaction. It is as responsible to make a better fencing. It is neat and strong."

1-1/2 ft. metal Bars are 15 ft. long, they are 1/2 in. square, and are wedged vertically at both ends.

FOR LARGE LOTS.

THE VICTORIA RIVETLESS HURDLE. 100,000 sold.



WITH HORIZONTALS.

The strongest, easiest, and most rapid Hurdle ever fixed to the Post. Drawing A shows the hurdle as it is fixed to the post. Drawing B shows the hurdle as it is fixed to the post. Drawing C shows the hurdle as it is fixed to the post. Drawing D shows the hurdle as it is fixed to the post.

LOW PRICES QUOTED ON APPLICATION.

LIGHT HURDLE. No. 17.



Each 5 ft. long.

Price—Varnished, 1/6d. per yard, including Bolt and Nut. Carriage paid to most Railway Stations in England in lots of 30 yards and upwards.

STRONG HURDLE. No. 28 B.



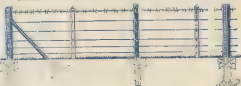
Each 6 ft. long.

Price—Varnished, 1/6d. per yard, including Bolt and Nut. Carriage paid to most Railway Stations in England in lots of 30 yards and upwards.

WIRE FENCING, WITH PATENT NATIONAL STEEL STANDARDS. Patent "Champion" Steel Thrust Plates, and Patent Clips.

PRICE: No 1090N—Fence, 3 ft. 9 ins. high, from ground, with five horizontals, top, 1/2 in. diameter, four lower 1/4 in. x 1/2 in. flat iron. Standards placed 3 ft apart and one long wire dropper between, 1/6d. per yard. Carriage paid to most Railway Stations in England in lots of 30 yards and upwards.

Single Straining Plates with 1/2 in. each. Double Straining Plates with 1/2 in. each. Double Straining Plates with 1/2 in. each.



IRON AND WIRE ESPALIER AND FITTINGS FOR MAKING GARDEN WALLS.



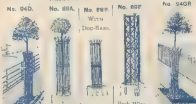
Holdfasts with Wires, 1/2 in. per foot. Carriage paid to most Railway Stations in England in lots of 30 yards and upwards.

CHAIN FENCING FOR GARRAGE DRIVES.



Manufactory VICTORIA WORKS.

WROUGHT IRON TREE GUARDS.



No. 94D. Guard, 5 ft. high, by 12 in. wide, 1/2 in. thick. Price 1/6d. each. No. 88A. Guard, 5 ft. high, by 12 in. wide, 1/2 in. thick. Price 1/6d. each. No. 88B. Guard, 5 ft. high, by 12 in. wide, 1/2 in. thick. Price 1/6d. each. No. 88C. Guard, 5 ft. high, by 12 in. wide, 1/2 in. thick. Price 1/6d. each. No. 94GR. Guard, 5 ft. high, by 12 in. wide, 1/2 in. thick. Price 1/6d. each.

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POULTRY AND LAWN TENNIS FENCING.



Complete 1/6d. Price.

Catalogue of all kinds of Hurdles, Iron and Wire Fencing, Gates, Etc. Free.

WOLVERHAMPTON.

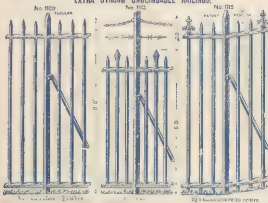
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LONDON OFFICES AND SHOW ROOMS.

Please refer to 1894 "COMPENDIUM" for other Designs. The above Illustrations are Copyright. (See over)

BAYLISS, JONES & BAYLISS'

EXTRA STRONG UNCLIMBABLE RAILINGS.



CHEAP BOUNDARY RAILING.

No. 1016. This Railing is cheaper than Handle, and can be fixed closer up to the purchaser's boundary, thus saving about 8 inches of ground. The framework is of flat iron.

SPECIFICATIONS AND PRICES.

Each panel is 9 ft long, with one Standard, two Rails and Nuts, and covered with a coat of Best Jet Varnish.

Height from ground when fixed	VERTICAL BARS		Carriage paid to most Railway Stations in England in lots of 50 yards and upwards.
	Size.	Distance centre to centre.	
6 ft	Round	4 1/2 in	1 3/4 per yard
4 ft 0 in	4 in dia.	4 1/2 in	1 1/4 "
4 ft 0 in	3 1/2 in dia.	4 1/2 in	1 1/4 "
4 ft 0 in	3 in dia.	4 1/2 in	1 1/4 "

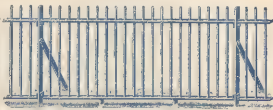
Side Straps, 1 1/2 in, with Plate Base. 1 3 each extra.

Prices for gates to match quoted on application.

CONTINUOUS UNCLIMBABLE BROUGH IRON RAILING.

No. 1020.

RAILING BARS WITH GLANT POINTS



Can be had almost any height and strength. Special quotations for large lots.

CONTINUOUS UNCLIMBABLE BROUGH IRON RAILING.

No. 1021 B.W.

SQUARE BARS PLATED INSIDE TO WORK.



Can be had almost any height and strength. Special quotations for large lots.

CHEAP BOUNDARY RAILING.

No. 1016 B.W.—This Railing is similar to No. 1016, above, but has square Vertical Bars, placed angle to view, and anchor fast inside and top. It is fixed close up to purchaser's boundary. The top requires a 1/2 in. plate.

SPECIFICATIONS AND PRICES.

Each panel is 9 ft long, with one Standard, two Rails and Nuts, and covered with a coat of the Best Jet Varnish.

Height from ground when fixed	VERTICAL BARS		Carriage paid to most Railway Stations in England in lots of 50 yards and upwards.
	Size.	Distance centre to centre.	
6 ft	Square.	4 1/2 in	1 3/4 per yard
4 ft 0 in	4 in dia.	4 1/2 in	1 1/4 "
4 ft 0 in	3 1/2 in dia.	4 1/2 in	1 1/4 "
4 ft 0 in	3 in dia.	4 1/2 in	1 1/4 "

Side Straps, 1 1/2 in, with Plate Base. 1 3 each extra.

Prices for gates to match quoted on application.

Manufactory
VICTORIA WORKS.

WOLVERHAMPTON.

LONDON OFFICES AND SHOW ROOMS
139 & 141, CANNON STREET, E.C.

BAYLISS, JONES & BAYLISS'

SELF-ADJUSTING UNCLIMBABLE STEEL RAILING.
SUITABLE FOR LEVEL, also for RISING OR FALLING GROUND.
No. 2795 (PATENT)



RISE OR FALL OF ONE IN SIX

The Railing can be fixed close up to the purchaser's boundary, but being made of steel to 1 in 6, or 6 inches per yard, it will stand straight gradually to a slight height or price, and the exact gradient will be given when ordered.

It is easily put together, on an entirely new and patented principle, which securely locks each bar when fixed. As it is despatched in bundles, the Railway Companies deliver it at a lower rate than the ordinary vertical bar fencing, thus effecting a saving which almost covers the cost of erection. Where a cheap, strong and unclimbable railing is required, it cannot be surpassed.

Gates to match quoted on application.

WALDOUGH IRON DOG KENNEL RAILING, No. 18K.R.

No. 18K.R. Railing is made in 6 ft. lengths, with main standard to which to go into ground.

SPECIFICATIONS AND PRICES.

Covered with one coat of Best Oil Paint, and Carriage Paid to most Railway Stations in England.

Height in feet and inches.	Size of Vertical Bar.	No. of bars per ft.	No. of Main Standards per yard.	Price per yard.
3 feet	1 1/2 in. dia.	2 inches.	1	6 3
6 "	" "	" "	1	6 9
7 10 "	" "	" "	1	7 3
5 "	1 1/2 in. dia.	2 1/2 inches.	1	6 6
6 "	" "	" "	1	7 0
7 10 "	" "	" "	1	7 6
5 "	1 1/2 in. dia.	3 inches.	1	7 6
6 "	" "	" "	1	8 0
7 10 "	" "	" "	1	8 6

UNCLIMBABLE CORRUGATED SHEET IRON FENCING.

No. 39



May also be used for Espalier for training Fruit Trees
Gates to match quoted on application.

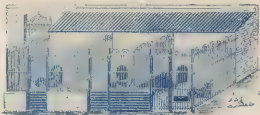
The Horizontals are of Channel Steel, and the standards of Double Tee Steel and Plate Iron.

SPECIFICATIONS AND PRICES.

Each Panel is 9 feet long, with one Standard and Square Side Stay. The whole of the material is heated and dipped into Best Boiled Lined Oil before leaving our Works.

Height in feet and inches.	Steel Size.	Standard Size.	Price per yard.
3 feet	1 1/2 in.	1 1/2 in.	1 0
4 "	2 in.	2 in.	1 6
5 "	2 1/2 in.	2 1/2 in.	2 0
6 "	3 in.	3 in.	2 6
7 10 "	3 1/2 in.	3 1/2 in.	3 0
8 "	4 in.	4 in.	3 6
9 "	4 1/2 in.	4 1/2 in.	4 0
10 "	5 in.	5 in.	4 6
11 "	5 1/2 in.	5 1/2 in.	5 0
12 "	6 in.	6 in.	5 6
13 "	6 1/2 in.	6 1/2 in.	6 0
14 "	7 in.	7 in.	6 6
15 "	7 1/2 in.	7 1/2 in.	7 0
16 "	8 in.	8 in.	7 6
17 "	8 1/2 in.	8 1/2 in.	8 0
18 "	9 in.	9 in.	8 6
19 "	9 1/2 in.	9 1/2 in.	9 0
20 "	10 in.	10 in.	9 6
21 "	10 1/2 in.	10 1/2 in.	10 0
22 "	11 in.	11 in.	10 6
23 "	11 1/2 in.	11 1/2 in.	11 0
24 "	12 in.	12 in.	11 6
25 "	12 1/2 in.	12 1/2 in.	12 0
26 "	13 in.	13 in.	12 6
27 "	13 1/2 in.	13 1/2 in.	13 0
28 "	14 in.	14 in.	13 6
29 "	14 1/2 in.	14 1/2 in.	14 0
30 "	15 in.	15 in.	14 6
31 "	15 1/2 in.	15 1/2 in.	15 0
32 "	16 in.	16 in.	15 6
33 "	16 1/2 in.	16 1/2 in.	16 0
34 "	17 in.	17 in.	16 6
35 "	17 1/2 in.	17 1/2 in.	17 0
36 "	18 in.	18 in.	17 6
37 "	18 1/2 in.	18 1/2 in.	18 0
38 "	19 in.	19 in.	18 6
39 "	19 1/2 in.	19 1/2 in.	19 0
40 "	20 in.	20 in.	19 6
41 "	20 1/2 in.	20 1/2 in.	20 0
42 "	21 in.	21 in.	20 6
43 "	21 1/2 in.	21 1/2 in.	21 0
44 "	22 in.	22 in.	21 6
45 "	22 1/2 in.	22 1/2 in.	22 0
46 "	23 in.	23 in.	22 6
47 "	23 1/2 in.	23 1/2 in.	23 0
48 "	24 in.	24 in.	23 6
49 "	24 1/2 in.	24 1/2 in.	24 0
50 "	25 in.	25 in.	24 6
51 "	25 1/2 in.	25 1/2 in.	25 0
52 "	26 in.	26 in.	25 6
53 "	26 1/2 in.	26 1/2 in.	26 0
54 "	27 in.	27 in.	26 6
55 "	27 1/2 in.	27 1/2 in.	27 0
56 "	28 in.	28 in.	27 6
57 "	28 1/2 in.	28 1/2 in.	28 0
58 "	29 in.	29 in.	28 6
59 "	29 1/2 in.	29 1/2 in.	29 0
60 "	30 in.	30 in.	29 6
61 "	30 1/2 in.	30 1/2 in.	30 0
62 "	31 in.	31 in.	30 6
63 "	31 1/2 in.	31 1/2 in.	31 0
64 "	32 in.	32 in.	31 6
65 "	32 1/2 in.	32 1/2 in.	32 0
66 "	33 in.	33 in.	32 6
67 "	33 1/2 in.	33 1/2 in.	33 0
68 "	34 in.	34 in.	33 6
69 "	34 1/2 in.	34 1/2 in.	34 0
70 "	35 in.	35 in.	34 6
71 "	35 1/2 in.	35 1/2 in.	35 0
72 "	36 in.	36 in.	35 6
73 "	36 1/2 in.	36 1/2 in.	36 0
74 "	37 in.	37 in.	36 6
75 "	37 1/2 in.	37 1/2 in.	37 0
76 "	38 in.	38 in.	37 6
77 "	38 1/2 in.	38 1/2 in.	38 0
78 "	39 in.	39 in.	38 6
79 "	39 1/2 in.	39 1/2 in.	39 0
80 "	40 in.	40 in.	39 6
81 "	40 1/2 in.	40 1/2 in.	40 0
82 "	41 in.	41 in.	40 6
83 "	41 1/2 in.	41 1/2 in.	41 0
84 "	42 in.	42 in.	41 6
85 "	42 1/2 in.	42 1/2 in.	42 0
86 "	43 in.	43 in.	42 6
87 "	43 1/2 in.	43 1/2 in.	43 0
88 "	44 in.	44 in.	43 6
89 "	44 1/2 in.	44 1/2 in.	44 0
90 "	45 in.	45 in.	44 6
91 "	45 1/2 in.	45 1/2 in.	45 0
92 "	46 in.	46 in.	45 6
93 "	46 1/2 in.	46 1/2 in.	46 0
94 "	47 in.	47 in.	46 6
95 "	47 1/2 in.	47 1/2 in.	47 0
96 "	48 in.	48 in.	47 6
97 "	48 1/2 in.	48 1/2 in.	48 0
98 "	49 in.	49 in.	48 6
99 "	49 1/2 in.	49 1/2 in.	49 0
100 "	50 in.	50 in.	49 6

New Instructions for putting together at destination will be sent with each invoice.



Hand Gate to match a 2 ft. wide with Slip Bolt and Standards, £: 10s. Lock 6/ extra. If Railing has Corrugated Sheets at bottom, 1/6 per yard extra. If gate dirty, 6/- extra.

Prices for Railing on Wall Quoted on Application.

This fencing is unclimbable from the outside, it forms an excellent substitute for Divisional Brick Walls, and it can be fixed close up to a boundary. The Horizontals are of strong Angle Iron and the Standards of Strong Bulb Tee Iron, painted 5 ft. 4 in. apart, finished with our Patent 'Campan' Steel. The Gate is 3 ft. 6 in. wide.

The Lathen and Corrugated Sheets have serrated tops, and the Framework and Pillars are covered with one coat of Best Jet Varnish.

Prices, Carriage Paid to most Railway Stations in England, in lots of 30 yards and upwards.

Height from ground when fixed.	5 feet.	6 feet.	7 feet.
Fence only	5 10	6 4	6 8
No. 2 Terminal Pillars	20 0	22 9	24 9
Angle Iron Corner Standards	2 3	2 6	3 0

Manufactory
VICTORIA WORKS.

WOLVERHAMPTON.

London Offices and Show Rooms
139 & 141, CANNON STREET, E.C.

BAYLISS, JONES & BAYLISS'



ORNAMENTAL WROUGHT IRON RAILING AND GATE, No. 244.

This new design is made in 9 feet lengths, with a Cast Iron Pillar at each. The long Vertical Bars are 1 inch square, flat to view, and the short ones finish square, angle to view.

PRICES (Painted).

Carriage paid to most Railway Stations in England.

Railing 41 feet high from top of coping, with Vertical Bars spaced 41 inches apart, centre to centre 65.5d per yard. Gate 3 feet wide by 41 feet high from ground when hung, fitted with Lock and pair of Cast Iron Pillars, including a strong Wrought Iron Back-stay to each, to fix in stone. £10 6s. 6d.

ORNAMENTAL RAILING AND GATE, No. 246.

This new pattern is made in 9 feet lengths connected by a Cast Iron Pillar as shown. The section and wing pieces are Malleable Iron.

PRICES (Painted).

Carriage paid to most Railway Stations in England.

Railing 25 feet high from top of coping, 21s. 3d per yard. Gate 31 feet wide by 41 feet high from ground when hung, fitted with Lock and pair of Cast Iron Pillars, including a strong wrought iron Back-stay to each, to fix in stone. £10 6s. 6d.



ORNAMENTAL WROUGHT IRON RAILING AND GATE, No. 248.

This elegant design is made in 9 feet lengths from centre to centre of the Pillars. The latter are 10 inches wide with Back-stays to lead into stone.

PRICES (Painted).

Carriage paid to most Railway Stations in England.

Railing 15 feet high to centre of top horizontal, rising to 25 feet high at Pillars, which are latticed, at 31s. 3d per yard. Gate 31 feet wide by 41 feet high from ground to centre of top horizontal when hung, fitted with Lock and pair of Wrought Iron Pillars, each 10 inches wide, with two Back-stays to each to lead into stone. £10 6s. 6d.



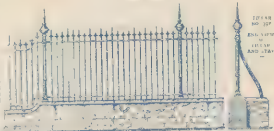
STRONG ORNAMENTAL RAILING, No. 1250.

The Pillars and Stays are of Cast Iron, the former being provided with a Wrought Iron Central Spike at top. The Vertical Bars are of Wrought Iron 1 inch diameter spaced 4 inches apart, centre to centre, sharp pointed and ornamented by Cast Iron Ringlets as shown, thus producing a cheap effect.

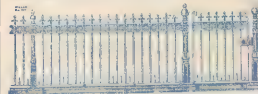
PRICES (Painted).

Carriage paid to most Railway Stations in England.

Each pane, 19 feet long by 4 feet 9 inches high from top of coping to points of the Vertical Bars, and the Horizontals are of strong Channel Steel. Complete with Pillar and Stay, every 9 feet as shown, 11s. 6d per yard. If required ramped as shown at A above, extra.



For Gates to match see last page of this Advertisement.



ORNAMENTAL RAILING AND GATES, No. 1254.

This Railing is extra strong, the Heads are of Wrought Iron. The Quarter Posts and Pillars are Cast Iron, and the latter are spaced 9 feet apart.

PRICES (Painted).

Carriage paid to most Railway Stations in England.

Railing 41 feet high from top of coping, Vertical Bars 1 inch diameter 6 inches apart, centre to centre in 9 feet panels with Pillar to each 31s. 3d per yard. Gate 3 feet high and 1 inch diameter Bars, 41s. 3d per yard. Gate 3 feet wide by 41 feet high, with Lock and pair of Cast Iron Pillars for stone. £18 10s. 0d.

We have fixed a large quantity of similar Railing at the Victoria Station, Manchester.

Manufactory
VICTORIA WORKS,

WOLVERHAMPTON.

London Offices and Show Rooms
139 & 141, CANNON STREET, E.C.

BAYLISS, JONES & BAYLISS'

LIGHT VERTICAL BAR WROUGHT IRON HURDLES.

No. 11C.

No. 11P.



SAME PRICES FOR EITHER DESIGN

See also for long rails, &c.
Each hurdle is 6 feet long, covered with one coat of Best Oil Paint.

Height from ground when laid.	VERTICAL BARS Size Round.	Distance Between to Centre to Centre.	Carriage Paid to most Railway Stations in England, in lots of 30 yards and upwards.
2 ft. 6 in.	1 in. dia.	3 inches.	3s. 6d. per yard.
3 ft. 0 in.	1 1/2 in.	4 in.	3 3/4 "
3 ft. 6 in.	1 3/4 in.	4 1/2 in.	4 "
3 ft. 9 in.	2 in.	5 in.	4 1/2 "

Gate 3 ft. wide to match, and pair
cost 10s. 6d. each.

These Hurdles are well made and very cheap.

SPECIFICATIONS AND PRICES.

Each 6 ft. long, with two Bolts and Nuts, and covered with one coat of Best Oil Paint.

Hurdle No.	Height from ground when laid.	VERTICAL BARS Size.	Distance Between to Centre to Centre.	Carriage Paid to most Railway Stations in England, in lots of 30 yards and upwards.
11C.	2 ft. 6 in.	1 in. dia.	3 in.	3s. 6d. per yard.
	3 ft. 0 in.	1 1/2 in.	4 in.	3 3/4 "
	3 ft. 6 in.	1 3/4 in.	4 1/2 in.	4 "
	3 ft. 9 in.	2 in.	5 in.	4 1/2 "
11P.	2 ft. 6 in.	1 in. dia.	3 in.	4 1/2 "
	3 ft. 0 in.	1 1/2 in.	4 in.	4 3/4 "
	3 ft. 6 in.	1 3/4 in.	4 1/2 in.	5 "
	3 ft. 9 in.	2 in.	5 in.	5 1/2 "

UNCLIMBABLE WROUGHT IRON HURDLES.

No. 11C.

No. 11D.

REDUCED VERTICAL BARS

REDUCED VERTICAL BARS, PLACED AT ANGLE TO THEM



Special Low Prices quoted for Large Lots.

Prices for Gates to match will be
quoted on application.

ORNAMENTAL GAME-PROOF GARDEN HURDLES.

Each 6 feet long and covered with one coat of Best Oil Paint.

No. 12A—Hurdles under 4 feet high are supplied with one Bolt and Nut to each, and 4 feet high and upwards with two.

No. 12A.

No. 12B.



SAME PRICES FOR EITHER DESIGN.

These are also useful for dividing villa grounds, &c.
SPECIFICATIONS AND PRICES.

Each 6 ft. long, and covered with one coat of Best Oil Paint.

Hurdle No.	Height from ground when laid.	VERTICAL BARS Size.	Distance Between to Centre to Centre.	Carriage Paid to most Railway Stations in England, in lots of 30 yards and upwards.
12A.	2 ft. 6 in.	1 in. dia.	3 in.	3s. 6d. per yard.
	3 ft. 0 in.	1 1/2 in.	4 in.	3 3/4 "
	3 ft. 6 in.	1 3/4 in.	4 1/2 in.	4 "
	3 ft. 9 in.	2 in.	5 in.	4 1/2 "

Gate 3 ft. wide to match, and pair
cost 10s. 6d. each.

This Hurdle forms an elegant design for Churchyards, divisions in Cemeteries, &c.

The new shape of the Feet and Plates makes them well adapted for fixing close up to the edges of foot paths, thus saving about eight inches of ground.

SPECIFICATIONS AND PRICES.

Each hurdle is 6 feet long from centre to centre of the large adjustable winged limbs, and is covered with one coat of Best Oil Paint.

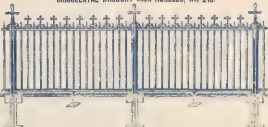
The Vertical Bars are 1/2 in. diameter, spaced 1/2 in. apart, centre to centre. The alternate Bars have Ornamental Wrought Iron Heads.

PRICES.

Hurdle 2 1/2 feet high 3s. 6d. per yard.
.. .. . 3 3/4 "

Carriage paid to most Railway Stations in England in lots of 30 yards and upwards.

ORNAMENTAL WROUGHT IRON HURDLES, No. 24B.



For Gates to match see last page of this Advertisement.

Manufactory
VICTORIA WORKS,

WOLVERHAMPTON.

London Offices and Show Rooms
139 & 141, CANNON STREET, E.C.

BAYLISS, JONES & BAYLISS'

WROUGHT IRON CARRIAGE AND SIDE GATE, No. 158.



This forms a new and superior design for entrance Gate, with Cast Iron Pillars. The Carriage Gate is 6 feet wide, by 4 feet high from ground to top of scrolls on entrance, and the Side Gate 4 feet wide. Each Gate is made Dog Proof in the Lower portion and well finished throughout.

PRICES (Painted)

Carriage Gate only, with Riding Latch and Hinges, for Wood or Stone	£ 3 0
Side Gate only, ditto	3 15 0
Pair of Cast Iron Pillars, 8 inches square at centre, to fix on Stone, including Bolts	3 10 0
ditto with detached self-latching Slates to Bolt on	11 13 0
ditto	14 16 0

If with Screwed Hinges on bolt through Wood or Stone Pillars, 4/6 per Gate extra.

Carrriage paid to most Railway Stations in England.

These Gates are constructed of Wrought Iron through-out, and finished in the best manner. They are 11 feet 6 inches wide, by 6 feet high from ground to top of Scrolls at centre, when hung (or 8 feet 6 inches high to top of Hinge) and fitted with best Stone-vented Lock and Sham in Cast Iron &c. &c.

PRICES (Painted)

Pair Gates only, with Hangers for Stone Pillars	£ 4 6
with Cast Iron Pillars 11 inches square, to fix on Stone, as above, including Bolts	30 0 0
ditto with self-latching Slates to Bolt on	35 10 0

Carrriage paid to most Railway Stations in England.

Prices for Railings as shown, quoted on application. Packing will be charged at cost price, not returnable.

PAIR ORNAMENTAL ENTRANCE GATES No. 397



CAST IRON GATE STOPS, EXTRA.

ORNAMENTAL WROUGHT IRON GATES.

GATE No. 418.



No. 418 Gate is 3 ft. 6 in. wide, by 5 ft. high from ground to top horizontal, when hung.

FULL SIZE

GATE No. 420.



No. 420 Gate is 4 feet wide, by 5 feet high from ground to top horizontal, when hung.

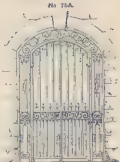
PRICES (Painted).

No. 418 Gate only, fitted with Lock and Hangers for Wood or Stone	£ 3 0
ditto, with Cast Iron Pillars to fix on Stone as above, including Bolts	12 0 0
ditto, with self-latching Slates to Bolt on	14 0 0
No. 420 Gate only, fitted with Lock and Hangers for Wood or Stone	12 0 0
ditto, with Cast Iron Pillars to fix on Stone as above, including Bolts	14 0 0
ditto, with self-latching Slates to Bolt on	16 0 0

Packing will be charged at cost price, not returnable.

WROUGHT IRON GATES.

No. 75-A.



Prices quoted on receipt of plan or Archway.

B. J. & B. will be happy to estimate for Architects' own or other Designs of Ornamental Iron Work Railings and Gates, &c.

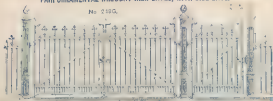
Manufactory,
VICTORIA WORKS,

WOLVERHAMPTON.

London Offices and Show Rooms
139 & 141, CANNON STREET, E.C.

BAYLISS, JONES & BAYLISS

PAIR ORNAMENTAL WROUGHT IRON GATES, WITH SIDE GATE



CAST IRON GATE STOPS, EXTRA

These Coins match the Graessental Raling, No. 762, shown on the 4th page of this advertisement.

They are 3 feet wide by 4 feet 6 inches high from ground to top. Horizontal when hung. The Boxes are Cast Iron.

PRICES (Painted).

PAU Gates only, fitted with Lock, Shown, and Hangings for Wood or Stone	17 32 0
---	-------------------------

Side Case only, 3½ feet wide. Fitted with Lock, and
Hangers for Wood or Stone 6

Pair Cast Iron Pillars, to fix on Stone		CX FR	1
" " " " " " " " " " " " " " " "		" " " "	8

Carrriage paid to your Railway Station in England
Packing will be charged at cost price, not returnable

1. 4. 1. 4. 485. match No. 545. Hard on the 5th page of the document.

The Pair of Gates are 4 feet 6 inches high from ground to top of Ornamental Heads (at centre of each leaf) when hung, by 9 feet wide, and Side Gate to match, 2 feet 6 inches wide.

PRICES (Painted).

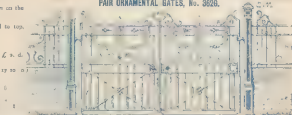
Pale Gates only, with Lock, Shunt, and Hinge
Wood or Steel

Side Gate only, fitted with Lock and Hangings, for
Wood, or stone

Port Cast Iron Pipe—see 55.00

Carriage paid to most Railway Stations in England
Packing will be charged at cost price, not returnable.

FAIR ORNAMENTAL GATES, No. 3526.



CAST IRON GATE STOPS, EXTRA

These Gates match No. 4938 Railag on the 4th page of the advertisement. The Pair Gates are 30 ft. wide, and the Side G. is 15 ft. wide. The Gates are made of steel and are painted black.

PP GLS (Painted)

Index	Sum of $\frac{1}{x_i}$	Pair of	S	(Extra)
1	1.0000	1, 2	1.0000	
2	1.5000	1, 3	1.5000	
3	1.8333	1, 4	1.8333	
4	2.0833	1, 5	2.0833	
5	2.2833	1, 6	2.2833	
6	2.4500	1, 7	2.4500	
7	2.5909	1, 8	2.5909	
8	2.7143	1, 9	2.7143	
9	2.8222	1, 10	2.8222	
10	2.9167	1, 11	2.9167	
11	3.0000	1, 12	3.0000	
12	3.0769	1, 13	3.0769	
13	3.1461	1, 14	3.1461	
14	3.2093	1, 15	3.2093	
15	3.2667	1, 16	3.2667	
16	3.3190	1, 17	3.3190	
17	3.3670	1, 18	3.3670	
18	3.4111	1, 19	3.4111	
19	3.4516	1, 20	3.4516	
20	3.4886	1, 21	3.4886	
21	3.5220	1, 22	3.5220	
22	3.5522	1, 23	3.5522	
23	3.5795	1, 24	3.5795	
24	3.6038	1, 25	3.6038	
25	3.6250	1, 26	3.6250	
26	3.6435	1, 27	3.6435	
27	3.6594	1, 28	3.6594	
28	3.6729	1, 29	3.6729	
29	3.6842	1, 30	3.6842	
30	3.6935	1, 31	3.6935	
31	3.7010	1, 32	3.7010	
32	3.7068	1, 33	3.7068	
33	3.7111	1, 34	3.7111	
34	3.7143	1, 35	3.7143	
35	3.7167	1, 36	3.7167	
36	3.7183	1, 37	3.7183	
37	3.7192	1, 38	3.7192	
38	3.7197	1, 39	3.7197	
39	3.7199	1, 40	3.7199	
40	3.7200	1, 41	3.7200	
41	3.7200	1, 42	3.7200	
42	3.7200	1, 43	3.7200	
43	3.7200	1, 44	3.7200	
44	3.7200	1, 45	3.7200	
45	3.7200	1, 46	3.7200	
46	3.7200	1, 47	3.7200	
47	3.7200	1, 48	3.7200	
48	3.7200	1, 49	3.7200	
49	3.7200	1, 50	3.7200	
50	3.7200	1, 51	3.7200	
51	3.7200	1, 52	3.7200	
52	3.7200	1, 53	3.7200	
53	3.7200	1, 54	3.7200	
54	3.7200	1, 55	3.7200	
55	3.7200	1, 56	3.7200	
56	3.7200	1, 57	3.7200	
57	3.7200	1, 58	3.7200	
58	3.7200	1, 59	3.7200	
59	3.7200	1, 60	3.7200	
60	3.7200	1, 61	3.7200	
61	3.7200	1, 62	3.7200	
62	3.7200	1, 63	3.7200	
63	3.7200	1, 64	3.7200	
64	3.7200	1, 65	3.7200	
65	3.7200	1, 66	3.7200	
66	3.7200	1, 67	3.7200	
67	3.7200	1, 68	3.7200	
68	3.7200	1, 69	3.7200	
69	3.7200	1, 70	3.7200	
70	3.7200	1, 71	3.7200	
71	3.7200	1, 72	3.7200	
72	3.7200	1, 73	3.7200	
73	3.7200	1, 74	3.7200	
74	3.7200	1,		

PAIR ORNAMENTAL GATES AND SIDE GATE. No. 4286.



CAST IRON GATE STOPS. EXTRA.

The Pillars are of Cast. Iron, with a Wrought Iron Back-stay to each

These Gates match No. 1835 Baffle g. shown on the 5th page of this survey report.

The Dog Bars are of Square Wrought Iron placed flat to view

PR CES (Pa/19100)

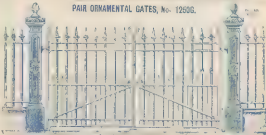
Partially covered, no feet wide, by 2 feet high from ground
to top. Keep with us at all times with no other birds, and
Hangings for Stone Pans

Pair of Cast Iron Pillars, 2 inches square at centre, to fix on
Stone, as shown, including Bolts . . . extra . . . 4

Date	Rate	with detached Selfing House as built
08 ..	" "	as per " "

Packing will be charged at cost price, not returnable.

PAIR ORNAMENTAL GATES, No. 1250C



CAST IRON GATE STOPS, EXTRA.

Manufactory
VICTORIA WORKS.

WOLVERHAMPTON.

139 & 141, CANNON STREET, E.C.

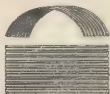
THE BLACKWALL GALVANIZED IRON Co., Limited.

Offices—CORBET COURT, LONDON, E.C.

Works—ORCHARD PLACE, BLACKWALL.

MANUFACTURERS OF

**BEST
GALVANIZED
CORRUGATED
SHEETS.**



**BEST
GALVANIZED
FLAT WORKING-UP
SHEETS.**

Contractors for the Erection of all kinds of

IRON ROOFING AND BUILDINGS.



Makers of
IRON KEGS.
DRUMS
&
CANS.



ROLLED JOISTS
& GIRDERS.
IRON TANKS
&
CISTERNS.

Largest Plant and most Modern Appliances in the Trade for
GALVANIZING IRON TANKS, CISTERNS, PLATES, ANGLES, BARS, &c.,
OF EXTRA LENGTH AND BREADTH.

FREDK. BRABY & CO.,

LONDON. LIVERPOOL. GLASGOW.

CHIEF
OFFICES: 352 to 364, Euston Rd., London.

ZINC AND COPPER ROOFING AND PATENT GLAZING.

Our Improved and Patented Systems of laying Zinc and Copper are generally well known to Architects and Engineers, but as our work on "ZINC ROOFING," with Drawings (a copy of which was sent to every member of the Profession some time since), is not always readily accessible, we make use of this medium to respectfully suggest the following SPECIFICATION to ensure only best work, and, in consequence, increased durability:—

"The Flats are to be covered with No. 15 Gauge Vieille Montagne Zinc, by Braby's, Euston Road, London, and fixed by their Workmen with Holding-Down Clips, Improved Solid Stopped Ends and Ridge Plates. No solder nor external fastenings are to be used. Drips to be 2½ inches deep." See Fig. 2, page 6*, of Third Edition (or Fig. 10, page 9, of Old Edition).

*This refers to our Book on "Zinc Roofing," containing full Instructions and Drawings as to Drip, full sizes of Wood Rolls, &c. It is a Green-covered Book, and has

"FREDERICK BRABY & CO."

on the back. (If not readily to hand, we will send another on application.)

THE GAUGES USED FOR ZINC ROOFS ARE EITHER:

13	14	15	16 Gauges.
Weighing about 17	18½	21½	24½ Ounces to the Square Foot.
(A sample packet of Gauges will be sent for Office use on application.)			

THE AVERAGE PRICES FOR ZINC ROOFING ARE:

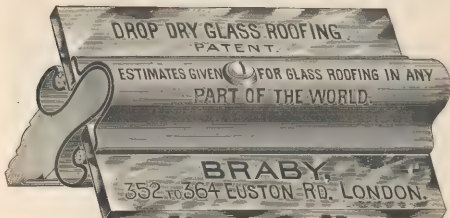
13	14	15	16 Gauges.
4½d.	5d.	5½d.	6d. per square foot.

THE AVERAGE PRICES FOR COPPER ROOFING ARE:

16	18	20	22 Ounces.
11d.	1/-	1/1	1½ per square foot.

As Prices vary with the fluctuations in market value of raw materials, we are always pleased to have the opportunity of taking out quantities from drawings or tracings, and submitting a lump sum estimate for insertion in Bills of Quantities.

For ENAMELLED IRON CISTERNS, see Page 446,



THE ONLY PERFECT SELF-SUSTAINING BAR.

THOUSANDS OF FEET HAVE BEEN FIXED
AND NOT ONE LEAK.

In comparing Estimates, F. BRABY & CO. desire to point out that their prices include the Moulded Wood Cores of Bars, and all necessary Ridgings and Flashings, whereas in some systems of Glazing, Estimates include merely the Metal Astragal and Cap, while the Wood Bars on which they rest, the Ridging, and the Flashing form an "extra."

AVERAGE PRICE, 1s. PER SQ. FT.

THE WHOLE OF THE ROOFING & GLAZING TO THE NEW BORO' MARKET ROOF, LONDON,
WAS CARRIED OUT BY US.

For ZINC & COPPER ROOFING, see opposite page. For ENAMELLED IRON CISTERNS, see p. 446.

F. BRABY & CO., 352-364, Euston Rd., London.

IDA WHARF, DEPTFORD, S.E.; EXPORT OFFICE: 110, CANNON STREET, E.C.

Also at LIVERPOOL and GLASGOW.

PATENT ENAMELLED IRON CISTERNS AND TANKS.

BY ROYAL LETTERS

PATENT.

Not liable to BREAK, as Slate Cisterns are, from Frost, &c.

Not liable to RUST, as are Iron Cisterns

No LEAD POISONING, as is experienced with Lead-lined Cisterns, as no Lead or any other injurious ingredient is used in these enamelled Cisterns.



BY ROYAL LETTERS

PATENT.

More ECONOMICAL, as they last longer than ordinary iron Cisterns.

No formation in them of Metallic Salts injurious to health

The BEAUTIFUL APPEARANCE and PURITY of the WATER.

The public have long desired to be able to obtain ENAMELLED Iron Cisterns and Tanks. We are now in a position to supply such, as we are the Sole Manufacturing Agents for GENERAL CREASEL, who has devoted much time and expenditure to the production of this much-wished-for article. Enamelled Tanks have been under trial for three years in Her Majesty's Royal Navy, and have officially been most favourably reported upon.

SIZES AND PRICES.

Capacities		Dimensions.				Gauge of Iron.	PRICES—Delivered London.			
		Lengths.		Widths.			Depths.	CISTERNs	TANKs	
Gallons.		ft.	in.	ft.	in.	ft.		in.	inch.	£ s. d.
50		2	0	2	0	2	0	A	2 15 6	3 10 0
100		1	0		0	2	0	A	4 7 0	5 9 0
200		4	0		0	2	0	A	7 0 0	8 15 0
300		1	7	3	7	3	7	A	8 11 0	10 14 0
400		4	0	4	0	4	0	B	10 12 6	13 5 0

LESS TRADE DISCOUNT. PRICES FOR OTHER SIZES SENT ON APPLICATION.

When ordering, please state where holes are required, as these should be cut before the Enamelling is done.

The Laps or Joints of the Plates of the larger sizes are coated with Patent Enamel Cement. The outside of the Cisterns and Tanks are painted Red. Can be supplied any other colour as may be required.

FREDK. BRABY & Co., London,

FITZROY WORKS, 352 to 364, Euston Road, N.W.

IDA WHARF, DEPTFORD, S.E.; EXPORT OFFICE: 110, CANNON STREET, E.C.

Also at LIVERPOOL and GLASGOW.

For COPPER ROOFING AND GLAZING, see Pages 444 & 445.

**THOMAS
BRAWN
& CO.**

ORNAMENTAL
METAL-WORKERS

Established
1852.

Gas and electric light fittings and
manufacturers of
CLEMENT ST.
BIRMINGHAM.

The advertisement is framed by a decorative border of vines and leaves. It features several illustrations of metalwork: a small lantern in the top left, a large ornate lamp post in the bottom right, a small bell in the top right, a worker at an anvil in the bottom left, and a decorative gate in the bottom center. A large diagonal banner across the center contains the text 'Gas and electric light fittings and manufacturers of CLEMENT ST. BIRMINGHAM.' Above the banner, the text 'Established 1852.' is written. The main title 'THOMAS BRAWN & CO. ORNAMENTAL METAL-WORKERS' is prominently displayed in the upper center.

Telegraphic Address—
"CASEMENTS, LONDON."

BURT & POTTS, WROUGHT IRON CASEMENT MAKERS AND ENGINEERS, 38 & 65, YORK STREET, WESTMINSTER, LONDON, S.W.

(Three Minutes' Walk from St. James' Park Station, Metropolitan District Railway.)

CASEMENTS AND FRAMES IN WROUGHT IRON. GUARANTEED WATER-TIGHT.

Made to open outwards, and prepared to receive Plate Glass, Lead Lights, or Sheet Glass in any number of panes.

Sections Nos. 9 and 10.



SILL.

Sec. No. 9.

The preparation of the Jambes here shown is most appropriate to receive these caseMENTS, but they can be prepared for fixing in Jambes of other Sections.

CaseMENTS 4 ft. 6 in. and upwards in height are made of Section No. 9.

Under 4 ft. 6 in. are made of Section No. 10.

PRICES.—Hinged at side on brass hinges to Open Outwards, prepared to receive Glass in One Pane each, and with Square Heads.

Quality No. 1 are fitted with Gun Metal Lever Handles and Stays, finished and lacquered or bronzed, and those 4 ft. 6 in. and upwards in height are furnished with treble slide fastenings of their usual pattern. Quality No. 2 are similar, except that those 4 ft. 6 in. and upwards in height have treble slide fastenings of their usual pattern. Quality No. 3 are fitted with Gun Metal Lever Handles and Stays, finished and lacquered or bronzed, and those 4 ft. 6 in. and upwards in height have double slide fastenings of their usual pattern. Quality No. 4 are fitted with plain filed Gun Metal Lever Handles and Stays, and those 4 ft. 6 in. and upwards in height have double slide fastenings of their usual pattern. Quality No. 5 are fitted with Malleable Iron Lever Handles and Iron Push-out Stays.

	Quality No. 1.	Quality No. 2.	Quality No. 3.	Quality No. 4.	Quality No. 5.
Under 2 ft. in height	41/- each	39/6 each	37/6 each	36/- each	32/- each
2 ft. and under 2 ft. 6 in. in height ..	42/-	40/6	38/-	37/-	34/-
2 ft. 6 in. " 3 ft. " ..	43/-	41/6	39/-	38/-	35/-
3 ft. " 4 ft. " ..	44/6	42/-	40/-	39/-	36/6
3 ft. 6 in. " 4 ft. " ..	47/-	45/6	43/-	42/-	38/6
4 ft. " 4 ft. 6 in. " ..	47/6	46/-	44/-	43/-	39/6
4 ft. 6 in. " 5 ft. " ..	72/6	63/-	56/6	56/-	47/6
5 ft. " 5 ft. 6 in. " ..	74/-	65/-	60/6	59/-	49/-
5 ft. 6 in. " 6 ft. " ..	78/-	68/6	64/-	61/6	53/-

TRANSOME LIGHTS IN WROUGHT IRON. GUARANTEED WATER-TIGHT.

BURT & POTTS' Windows and Frames of the above Sections for use above transoms, hinged at top to open outwards by means of Gun Metal jointed Stays and Fastenings, prepared to receive glass in one pane each, and with square heads.

PRICES, any size up to 3 ft. high—

Quality No. 1 with Gun Metal fittings, finished and lacquered, or bronzed, 48/- each.

Quality No. 2 with Gun Metal fittings, plainly filed, 45/6 each.

"FIXED LIGHTS," Wrought Iron, of a Section, so that the glass in them is in the same plane as that in the Opening CaseMENT, and the same of Iron shown is also the same, prepared to receive glass in one pane each, and with square heads. From 2 ft. each side 2 ft. in height to 2 ft. 6 in. each 4 ft. in height. Where it is not important that the plane of the glass in the "Fixed Lights" shall be the same as that in the Opening CaseMENT, they can be supplied at much less prices.

Semi-Circular or Gothic Heads for CaseMENTS, 10/6 each extra. Trefoli Heads for CaseMENTS, 16/6 each extra. Semi-Circular or Gothic Heads for "Fixed Lights," 5/6 each extra. Trefoli Heads for "Fixed Lights," 9/- each extra. Cross Bars, 1/3 each per extra. CaseMENTS, &c., of any height divided into 4 panes, 3/- extra; 6 panes, 5/-; 8 panes, 7/-; 10 panes, 9/-; 12 panes, 11/-.

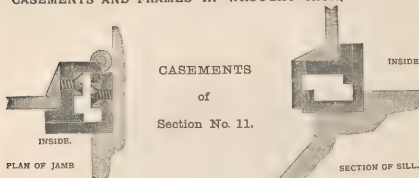
N.B. In all cases Prices are determined solely by the height, irrespective of the width, which may vary from say 20 to 2 ft.

MESSRS. BURT & POTTS make many CaseMENTS and Frames of other Sections and Qualities. Samples can be seen at their Office. An illustrated Catalogue of the whole of their CaseMENTS will be forwarded upon application.

Telegraphic Address—
"CASEMENTS, LONDON."

BURT & POTTS, WROUGHT IRON CASEMENT MAKERS AND ENGINEERS, 38 & 65, YORK STREET, WESTMINSTER, LONDON, S.W. (Three Minutes' Walk from St. James' Park Station, Metropolitan District Railway.)

CASEMENTS AND FRAMES IN WROUGHT IRON,



PRICES.

Hinged at side on brass hinges to Open Outwards, prepared to receive glass in One Pane each, and with Square Heads.

Quality No. 1 are fitted with Gun Metal Lever Handles and Stays finished and lacquered, or bronzed. Quality No. 2 are fitted with Gun Metal Lever Handles and Stays plainly filed. Quality No. 3 are fitted with Malleable Iron Lever Handles and Wrought Iron Push-out Stays.

	Quality No. 1.	Quality No. 2.	Quality No. 3.
Under 2ft. in height	30/- each	20/- each	20/-
2ft. and under 2ft. 6in. in height	31/-	20/6	27/-
2ft. 6in. "	32/-	20/6	27/6
3ft. "	32/6	21/6	28/6
3ft. 6in. "	33/-	21/6	31/-
4ft. "	35/6	24/6	31/6
4ft. 6in. "	36/-	27/6	34/6
5ft. "	40/-	28/6	35/6

TRANSOME LIGHTS IN WROUGHT IRON.

BURT & POTTS' Windows and Frames of the above Section for use above transoms hinged at top to open outwards by means of Gun Metal Jointed Stays and Fastenings, prepared to receive glass in one pane each, and with Square Heads.

PRICES, any size up to 3ft. high—

Quality No. 1 have the Gun Metal Fittings, finished and lacquered or bronzed, 38/6 each.

Quality No. 2 have the Gun Metal Fittings plainly filed, 36/- each.

"FIXED LIGHTS," Wrought Iron, of a Section so that the glass in them is in the same plane as that in the Opening Casements, and the margin of Iron shown is also the same, prepared to receive glass in one pane each, and with Square Heads. From 18½ each under a foot in height to 18/- each 5 feet 6 inches in height.

Where it is not important that the plane of the glass in the "Fixed Lights" shall be the same as that in the Opening Casements, they can be supplied at much less prices.

Semi-circular, or Gothic Heads for Casements 10/- each extra. Trefoil Heads for Casements 15/6 each extra. Semi-circular, or Gothic Heads for "Fixed Lights," 5/6 each extra. Trefoil Heads for "Fixed Lights," 9/- each extra. Cross-bars, 1/3 each bar extra.

Casements, &c., of any height, divided into 4 panes, 3/- extra; 6 do., 5/-; 8 do., 7/-; 10 do., 9/-; 12 do., 11/-.

N.B.—In all cases Prices are determined solely by the heights, irrespective of the widths, which may vary from any 6in. to 2ft.

MESSRS. BURT & POTTS make many Casements and Frames of other Sections and Qualities. Samples can be seen at their Office. An Illustrated Catalogue of the whole of their Casements will be forwarded upon application.



Pattern 32

Only made in Brass; can be fitted into square brass frame as shown, if desired.



Pattern 43

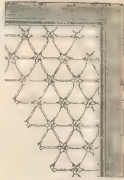
This is fitted with a frame band of $\frac{1}{4}$ in. for fitting into a bar opening.

"CASTALICE"

(REGISTERED TRADE MARK)

REGISTERED

DESIGNS.



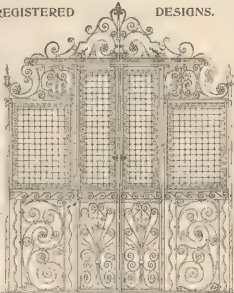
Pattern 45

Shown for Panels in Wood Framing, or can be framed in angle iron if desired.

Ornamental METAL LATTICE

FOR VENTILATING PANELS, GUARDS
TO LIFTS, COVERS FOR HOT
WATER COILS, ETC.,

In Iron, Brass, or Copper.



*Designs & Estimates
Prepared
on Application.*

Ornamental METAL LATTICE

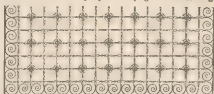
WINDOW BLINDS, COUNTER
SCREENS FOR OFFICES, DOOR
PANELS, ETC.,

In Iron, Brass or Copper.

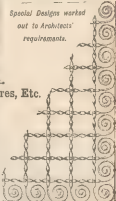
*Special Designs worked
out to Architects'
requirements.*



Pattern 26. Frame as Pattern 43.



Pattern 47. Framed as Pattern 43.



Pattern 40. Framed as Pattern 43.

CASTON'S PATENT SLIDING GATES for Lift Enclosures, Etc.
Can be carried out in any style in keeping with surroundings.

Address: GEO. CASTON & CO., 29, Great Dover Street, S.E.

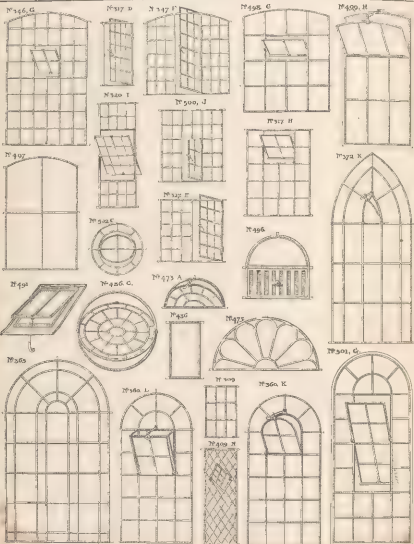
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SHOW ROOMS

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CRITTALL
 MANUFACTURING COMPANY, LIMITED,
 MANOR WORKS, BRAINTREE.

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WROUGHT IRON, BRONZE, STEEL,
 GUN METAL.

SASHES

WROUGHT IRON, STEEL, LARGEST
 RANGE OF SECTIONS IN ENGLAND.

IRON DOORS

WAREHOUSE, PARTY WALL, STRONG
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OPENING GEAR

FOR WOOD AND METAL FANLIGHTS,
 GYMNASIUMS, GREENHOUSES, &c.

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 WOOD CASEMENTS**

IN WROUGHT IRON, GUN METAL,
 BRONZE.

Iron Roofs, Skylights, Gates, Fencing and
 General Wrought Iron Work.

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 will be ready in JUNE.*

N.B.—A PRACTICAL REPRESENTATIVE WILL ALWAYS BE PLEASED TO CALL ON ARCHITECTS AND ENGINEERS,
 TO GIVE ANY INFORMATION REQUIRED.

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All kinds of
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In Iron, Brass, and Copper.

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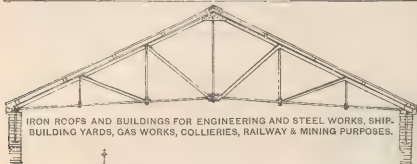
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Regd. "CLIMAX" Section.—Guaranteed absolutely weather-tight in the most exposed positions

To open inwards or outwards, prepared for glazing in one piece, with square heads, are prepared to fix in rebates or groove. If in the latter, they can be varied in the method of opening either in or out, hinged at side, head, or sill, or on pivots, without any alteration of stone or wood-work. Prices vary according to the quality and design of the fittings.

No 12a, 628.	HEIGHTS.	QUALITY.					Fixed Lights with glass in same place and to match casement.
		1	2	3	4	5	
2-ft. and under ..	37/6	35/-	34/6	32/6	30/-	27/6	17/6
2½ ft.	37/6	35/-	34/6	32/6	30/-	27/6	22/-
3 ft.	39/6	36/-	35/6	34/6	32/-	29/6	23/6
3½ ft.	41/-	37/6	37/6	35/6	33/-	31/6	24/6
4 ft.	43/-	41/-	39/-	37/-	34/-	31/6	25/6
4½ ft.	44/6	42/-	40/6	38/6	35/6	32/6	26/6
5 ft.	46/-	44/-	42/-	40/6	37/6	34/6	28/6
5½ ft.	48/6	46/6	44/6	42/6	39/6	36/6	30/6
6 ft.	50/-	48/-	46/-	44/6	41/6	38/6	32/6

Regd. "ECLIPSE" Section.—Guaranteed weather-tight in all ordinary positions.

Casements are also made to open in or out, of rolled steel, and hung on steel pivots with gun-metal bearings

No 12a, 528	HEIGHTS.	QUALITY.			Fixed Lights with glass in same place and to match casement.	Patentees of Opening "In and Out" Casements for facility of cleaning.
		1	2	3		
2-ft. and under ..	29/6	27/6	25/-	23/6	17/6	
2½ ft.	30/-	28/6	26/-	24/6	18/6	
3 ft.	31/-	29/6	27/-	25/6	19/6	
3½ ft.	32/-	30/6	28/6	26/6	20/6	
4 ft.	33/-	31/6	29/6	27/6	21/6	
4½ ft.	34/6	32/6	30/6	28/6	22/6	
5 ft.	35/6	33/6	31/6	29/6	23/6	

Our Regd. SLOPING CILL is fitted to both the above sections in all qualities but the cheapest, with or without condensation lip as desired.

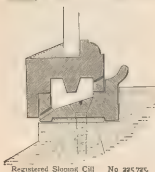
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keep many other Sections in Stock. Samples can be seen at

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The CLIMAX, ECLIPSE, and other sections are also made in Gun-Metal.

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and Slag 27. cast.



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Brass Castiron
and Slag 40. cast.



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Brass Castiron
and Slag 30. cast.



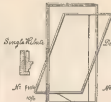
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Brass Castiron
and Slag 40. cast.



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No. F 114. 76



No. F 119. 106



No. F 98. 136



No. F 110. 106



No. F 116. 167



No. F 115. 247



No. F 116. 167



No. F 118. 247



No. F 120. 106



No. F 97. 147



No. F 116. 167

Above prices are on a scale of 1/2-in. or 1-ft., but can be made to any dimensions.

DISCOUNTS AND SPECIAL PRICES FOR LARGE QUANTITIES ON RECEIPT OF SPECIFICATIONS.

FOR LIFTS AND IRON DOORS SEE SECTION D.

COMPLETE CATALOGUE SENT ON APPLICATION.

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IMPROVED WROT IRON MITRE JOINT SASHES

MADE TO ANY SIZE OR SHAPE.



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N^o F 127.



N^o F 126.



N^o F 129



N^o F 132



N^o F 133



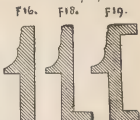
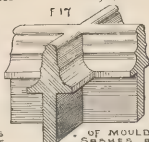
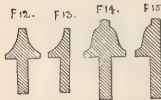
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N^o F 137



FULL SIZE SECTIONS
OF WHICH THESE

OF MOULDED IRON
SASHES ARE MADE

Price vary from 5d. to 2s. 6d. per foot super, according to quantities, sizes, number of panes, varieties of iron, and design
EXACT ESTIMATES ON RECEIPT OF REQUIREMENTS

The Sashes are in every way superior to cast iron being practically unbreakable, and offer less obstruction to light.
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WROUGHT IRON CASEMENT MAKER & ENGINEER,

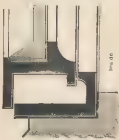
4, Harleyford Road, Vauxhall, London, S.E.

WORKS—PARADISE STREET, LAMBETH.

GUARANTEED WEATHER PROOF.



Section 1.—SILL



Section 4—SILL

SECTION No. 1. FULL SIZE.

The Method of Hanging shown is the best, as it avoids the cutting away of any portion of the Casement or Frame.

SECTION No. 4. FULL SIZE

The Method of Hanging shown is the best, as it avoids the cutting away of any portion of the Casement or Frame.

The preparation of the Jambæ here shown is the most appropriate, but they can be prepared for fixing in Jambæ of other Sections

PRICES.

Hinged at side to open out. With square heads Casements 4 ft. 6 in. high and over are priced with Double Fastenings.

N.B.—Prices are determined solely by the height—widths may vary from 6 in. to 2 ft.

BEST QUALITY.

Section No. 1.				Section No. 4.			
Under 2 ft. 0 in. high				Under 2 ft. 0 in. high			
2 ft. 0 in. and	2 ft. 6 in.	..	35/-	2 ft. 0 in.	2 ft. 6 in.	..	30/-
2 ft. 6 in.	3 ft. 0 in.	..	37/-	2 ft. 6 in.	3 ft. 0 in.	..	32/-
3 ft. 0 in.	3 ft. 6 in.	..	39/-	3 ft. 0 in.	3 ft. 6 in.	..	34/-
3 ft. 6 in.	4 ft. 0 in.	..	43/-	3 ft. 6 in.	4 ft. 0 in.	..	38/-
4 ft. 0 in.	4 ft. 6 in.	..	45/-	4 ft. 0 in.	4 ft. 6 in.	..	39/-
4 ft. 6 in.	5 ft. 0 in.	..	50/-	4 ft. 6 in.	5 ft. 0 in.	..	45/-
5 ft. 0 in.	5 ft. 6 in.	..	55/-	5 ft. 0 in.	5 ft. 6 in.	..	50/-
5 ft. 6 in.	6 ft. 0 in.	..	58/-	5 ft. 6 in.	6 ft. 0 in.	..	55/-
6 ft. 0 in.	6 ft. 6 in.	..	60/-	6 ft. 0 in.	6 ft. 6 in.	..	60/-

This Section is particularly well adapted for dividing into panes with a Moulded Sash Bar.

TRANSOME LIGHTS (Same Prices if fitted with Double jointed Stays, 10/- extra; Semi-Circular or Gothic Heads, 10/- each extra, Trefoli Heads, 10/6 each extra, Saddle Bars, 1/- each extra.

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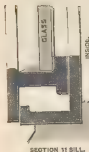
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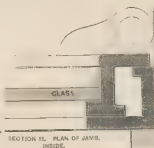
4, HARLEYFORD ROAD, S.E.



SECTION 11 SILL

Section No. 11. Full Size.

The method of Hanging shown is the best, as it avoids the cutting away of any portion of the Casement or Frame.



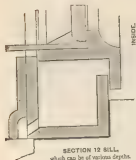
SECTION 11. PLAN OF JAMB INSIDE.

PRICES.

Hinged at Side to open out, with Square Heads.

N.B.—Prices are determined solely by the height. Width may vary from 6 inches to 2 feet.

	Under 2 ft. 0 in. high ..	25	3 ft. 6 in. and under 4 ft. 0 in. ..	29 6
2 ft. 0 in. and	2 ft. 6 in. ..	26	4 ft. 0 in. ..	31 6
2 ft. 6 in. ..	3 ft. 0 in. ..	27	4 ft. 6 in. ..	32 6
3 ft. 0 in. ..	3 ft. 6 in. ..	28		

SECTION 12 SILL
which can be of various depths.**Section No. 12. Full Size.**

To open inwards.

GUARANTEED WEATHER-PROOF.

The method of Hanging shown is the best, as it avoids the cutting away of any portion of the Casement or Frame.



SECTION 12. PLAN OF JAMB INSIDE.

PRICES.

Hinged at side to open in, with Square Heads.

N.B.—Prices are determined solely by the height. Width may vary from 6 inches to 2 feet.

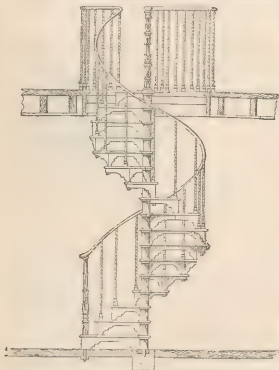
BEST QUALITY.

	Under 2 ft. 0 in. high ..	36/0	3 ft. 6 in. and under 4 ft. 0 in. ..	38 6
2 ft. 0 in. and under 2 ft. 6 in. ..	2 ft. 6 in. ..	38/0	4 ft. 0 in. and under 4 ft. 6 in. ..	40 6
2 ft. 6 in. and under 3 ft. 0 in. ..	3 ft. 0 in. ..	40/0	4 ft. 6 in. and under 5 ft. 0 in. ..	42 6
3 ft. 0 in. and under 3 ft. 6 in. ..	3 ft. 6 in. ..	41/0	5 ft. 0 in. and under 5 ft. 6 in. ..	44 6

FOR OTHER DESIGNS SEE OPPOSITE PAGE.

HAYWARD'S

IMPROVED CIRCULAR AND STRAIGHT IRON STAIRCASES.



ORDERS AND INQUIRIES should state the outside diameter, and the height from floor to floor, and give a rough sketch of position of Staircase showing convenient point for first step on ground floor and top landing, and whether Hand rail is required at top round Well-hole.

STOCK SIZES

Circular.		Straight	
	3 feet 6 inch Diameter		2 feet 0 inch.
4	" "	2	" "
4	" "	2	" "
4	" "	1	" "
5	" 0 "	3	" 12 "
5	" 0 "		
6	" 0 "		

**COTTAM'S
IRON STABLE FITTINGS.**

As supplied to the Queen, the Prince of Wales, &c

IRON SASHES AND CASEMENTS**AIR TIGHT INSPECTION COVERS TO
DRAINS**

For Stone Curbs or Asphalt and Concrete Floors.



STOCK SIZES

27 x 27, 27 x 31, 31 x 31, 15 x 15 inches, outside.

FRESH AIR MICA INLET VALVES

FOR VENTILATING DRAINS

For 3 inch, 4 inch, or 6 inch Pipes.

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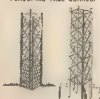
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BRIERLEY HILL IRON WORKS, BRIERLEY HILL,
STAFFORDSHIRE.

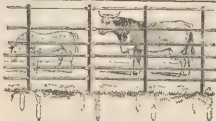
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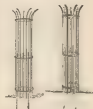
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Introduced by H. & S. The most
Effective Tree Guard in use.
Prices, 9- & 10- each.



CONTINUOUS BAR FENCE. From 1/4s per yard.



WROUGHT IRON TREE GUARDS
From 8/- each



IMPROVED CAST IRON
STRAINING PILLAR.



STRAINED WIRE FENCE FOR CATTLE AND SHEEP. From 10d per yard.



WROUGHT IRON
STRAINING PILLAR.



WICKET GATE
FOR CONTINUOUS FENCES



WROUGHT IRON FIELD GATES
From 25- each



UNOLIMABLE GATES & RAILINGS

GALVANIZED CORRUGATED IRON ROOFS
AND SHEDS.

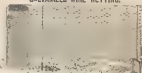


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Iron Cow House Fittings,
Figgeries, and Creameries,
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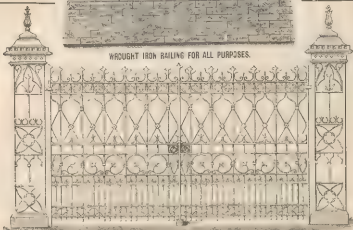
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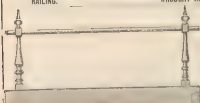


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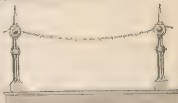
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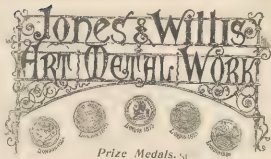
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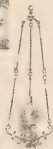


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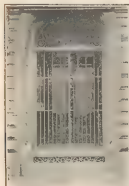
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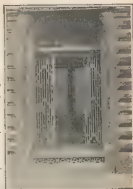
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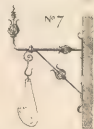
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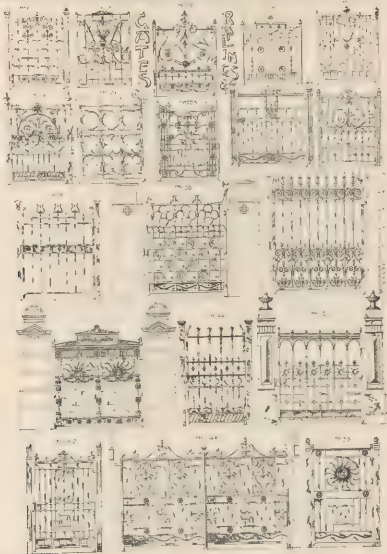
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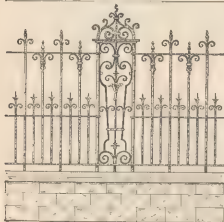
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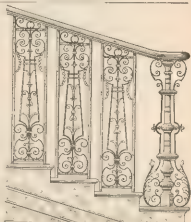


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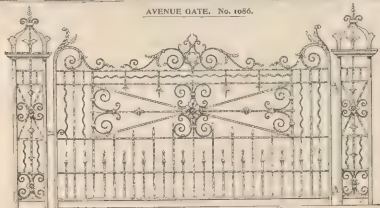


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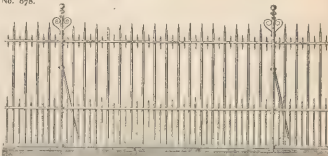
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	price per yd.	10 3
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	price per yd.	11 0
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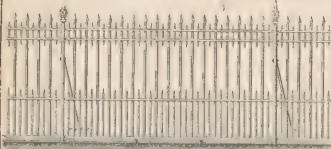
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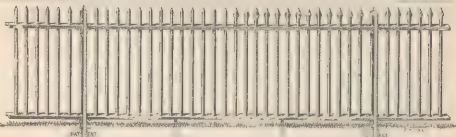
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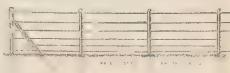
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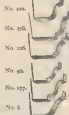
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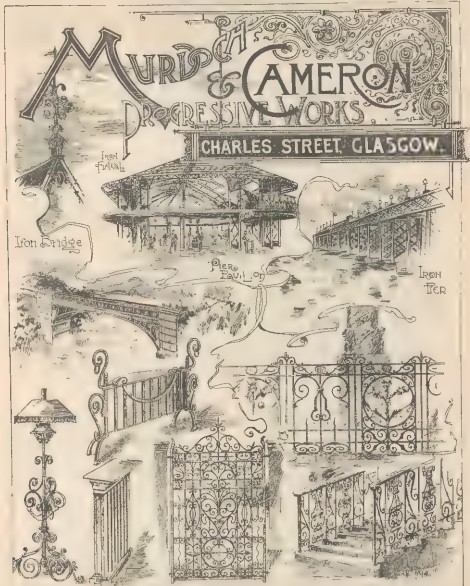
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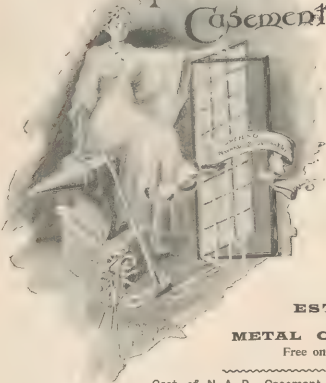
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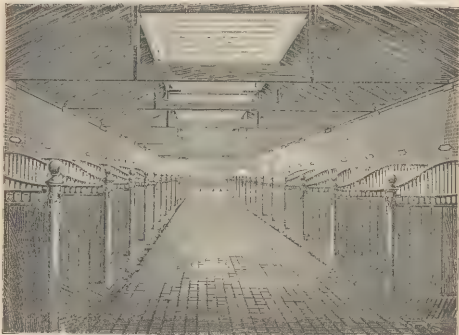
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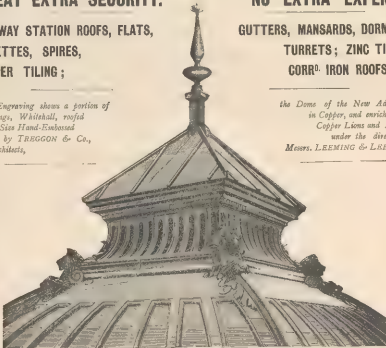
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WROUGHT IRON GATES FOR MANSIONS.

Double from 11' to 14' openings, and 7' to 12' high, from £25.

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WORRALL'S PATENT AUTOMATIC GATES, for the prevention of accidents with lifts, from £15 per Floor.

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LIVERPOOL, Sandoe Dock Station, M. R.
BOOTLE (Station), Lancashire, L. & Y. R.
LIVERPOOL, Lime Street Station, L. & N. W. R.
BANGOR, N.W., St. David's Church—Architect,
Sir A. Bloomfield, M.A. Churches at MOSSLEY
HILL, Lancashire; WATERLOO, Lancashire;
HEAVILY, STOCKPORT—Architects, Messrs.
Paley, Austin and Paley. THORNTON HALL,
Cheshire—Architect, Mr. Fogg. FORMBY HALL,
Lancashire—Architect, Mr. Sutton.

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Gate Works,

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ONE OF THE HENSHAW STREET GATES, LIVERPOOL, BY WORRALL & CO.

MR. SIR WILLIAM CUNLIFFE BROOKS, BART., Aboyan, Scotland, concludes an ordinary letter to Worrall & Co., thus—

*I like your work
& I consider your
prices aim at being
reasonable.*

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TELEGRAMS, 'CASEMENTS, MANCHESTER'

NATIONAL TELEPHONE NO. 8365.

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METAL CASEMENTS & SASHES

IN STEEL, WROUGHT IRON, COINAGE METAL, ETC.

No. 1 SECTION. Hung at side on Special Pivots to open Outwards. Guaranteed Weather-tight in any position.

COINAGE METAL P.V.H. WITH STEEL CENTRE

WROUGHT-IRON Casements and Frames, in one Square, and with Square Heads.				FIXED LIGHTS.	
HEIGHT.	WIDTH.	QUALITY.		Made of same Section as the Opening Light.	Made of Plain Angle Iron.
4 ft. and under 11 in.	4 ft. and under 11 in.	20	12	11	11
Above 4 ft. and under 5 ft. 6 in.	4 ft. and under 5 ft. 6 in.	20	12	11	11
5 ft. 6 in. and under 6 ft. 6 in.	5 ft. 6 in. and under 6 ft. 6 in.	20	12	11	11
6 ft. 6 in. and under 7 ft. 6 in.	6 ft. 6 in. and under 7 ft. 6 in.	20	12	11	11
7 ft. 6 in. and under 8 ft. 6 in.	7 ft. 6 in. and under 8 ft. 6 in.	20	12	11	11
8 ft. 6 in. and under 9 ft. 6 in.	8 ft. 6 in. and under 9 ft. 6 in.	20	12	11	11
9 ft. 6 in. and under 10 ft. 6 in.	9 ft. 6 in. and under 10 ft. 6 in.	20	12	11	11
Above 9 ft. 6 in. and up to 10 ft. 6 in.	Above 9 ft. 6 in. and up to 10 ft. 6 in.	20	12	11	11

NOTE:—Special provision is made at Gull for escape of condensed moisture. The above prices include High class Fittings, which alone regulate the quality of the Casements. "Glazing Fillets extra."

TRANSMISSION LIGHTS of same Sections, to push out, and inclusive of Jointed Stays. No. 1. No. 2. No. 3. quality. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

PRICES OF ROD OR OTHER GEARING CAN BE HAD ON APPLICATION.

PLAN OF JAMB.

No. 14 SECTION. Hung at side on Special Pivots to open Inwards. Guaranteed Weather-tight in any position.

WROUGHT-IRON Casements and Frames, in one Square, and with Square Heads.

HEIGHT.	WIDTH.	QUALITY.		Made of same Section as the Opening Light.	Made of Plain Angle Iron.
4 ft. and under 11 in.	4 ft. and under 11 in.	20	12	11	11
Above 4 ft. and under 5 ft. 6 in.	Above 4 ft. and under 5 ft. 6 in.	20	12	11	11
5 ft. 6 in. and under 6 ft. 6 in.	5 ft. 6 in. and under 6 ft. 6 in.	20	12	11	11
6 ft. 6 in. and under 7 ft. 6 in.	6 ft. 6 in. and under 7 ft. 6 in.	20	12	11	11
7 ft. 6 in. and under 8 ft. 6 in.	7 ft. 6 in. and under 8 ft. 6 in.	20	12	11	11
8 ft. 6 in. and under 9 ft. 6 in.	8 ft. 6 in. and under 9 ft. 6 in.	20	12	11	11
9 ft. 6 in. and under 10 ft. 6 in.	9 ft. 6 in. and under 10 ft. 6 in.	20	12	11	11
Above 9 ft. 6 in. and up to 10 ft. 6 in.	Above 9 ft. 6 in. and up to 10 ft. 6 in.	20	12	11	11

NOTE:—Special provision is made at Gull for escape of condensed moisture. The above prices include High class Fittings, which alone regulate the quality of the Casements. Where Glazing Fillets are not used, the frames are drilled for Copper or Lead Figs (See "7") to hold glass in position, and prevent leaks.

TRANSMISSION LIGHTS of same Sections, to fall back, and inclusive of Coinage Metal Catch, and suitable Side Guides. No. 1. No. 2. No. 3. quality. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

PRICES OF ROD OR OTHER GEARING CAN BE HAD ON APPLICATION.

OUTSIDE.

COINAGE METAL PIVOT WITH STEEL CENTRE

PLAN OF JAMB.

DECORATIVE METAL WORK,

TO SPECIAL DESIGNS, SUCH AS

GATES, RAILINGS, ORNSTEINS, GRILLES, VANES, TERMINALS, VERANDAS, FIRE IRONS, FENDERS, SCREENS, DOOR FURNITURE, CABINET HINGES, ALTAR STANDARDS, CHANCEL SCREENS, LECTERNS, ELECTRIC LIGHT & GAS FITTINGS, SUCH AS: CORONAE, PENDANTS, LAMPS, STANDARDS, BRACKETS, ETC. MEMORIAL BRASSES, ETC. ETC.

* LIGHTNING CONDUCTORS MADE AND FIXED

WINDOW VENTILATING GEARING FOR ASYLUMS, "POODS" MILLS, ETC.

GEORGE WRAGGE,

TELEGRAMS, "CASEMENTS, MANCHESTER."

NATIONAL TELEPHONE No. 2,105

Head Office and Works **WARDRY WORKS, SALFORD, MANCHESTER.**

BRANCHES:—22 SURREY ST. STRAND LONDON W.C. 17, LOWER SACKVILLE ST. DUBLIN. 4, TEMPEST CHAMBERS TEMPEST HEY, LIVERPOOL.

METAL CASEMENTS & SASHES

IN STEEL, WROUGHT IRON, COINAGE METAL, ETC.

No. 19 SECTION (Regd No. 231 581 Hung at side on special Pivots to open OUTWARDS. GUARANTEED WEATHER TIGHT IN ANY POSITION.

STEEL CASEMENTS and Frames, in One Square, with Square Heads. FIXED LIGHTS.

Height. Width. Angle Iron.

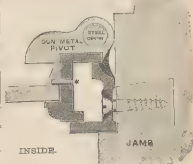
Height.	Width.	Angle Iron.
1 ft. 6 in. to 2 ft.	2 ft. 6 in. to 4 ft.	2 1/2"
2 ft. 6 in. to 3 ft.	4 ft. 6 in. to 6 ft.	3"
3 ft. 6 in. to 4 ft.	6 ft. 6 in. to 8 ft.	3 1/2"
4 ft. 6 in. to 5 ft.	8 ft. 6 in. to 10 ft.	4"
5 ft. 6 in. to 6 ft.	10 ft. 6 in. to 12 ft.	4 1/2"

NOTE Special provision is made at Chf. for escape of condensed moisture.

The above prices include High class. Fixings, which, where required, the quality of the Casements where Glazing is done are used the same are drilled for Copper or Lead (see "C") to hold glass in position until cement sets.

TRANSOM LIGHTS of same sections, to push out, and inclusive of Jointed Sashes.

Any height up to 6 ft. 6 in. any width up to 6 ft. 6 in. Quality No. 1. No. 2. Over 6 ft. and up to 12 ft. 6 in. any width up to 6 ft. 6 in. 2 1/2" 3"



PRICES OF ROD OR OTHER BEARING CAN BE HAD ON APPLICATION.

PRICES OF SIMPLER SECTIONS IN WROUGHT IRON.

No. 5 HUNG AT SIDE TO OPEN OUTWARDS.						No. 8 HUNG AT SIDE TO OPEN INWARDS.					
Height.	Width.	Quality.	Made of same Section as the Opening Light.	Made of Plain Angle Iron.		Height.	Width.	Quality.	Made of same Section as the Opening Light.	Made of Plain Angle Iron.	
1 ft. 6 in. to 2 ft.	2 ft. 6 in. to 4 ft.	2 1/2"	2 1/2"	2 1/2"		2 ft. 6 in. to 3 ft.	3 ft. 6 in. to 4 ft.	3"	3"	3"	
2 ft. 6 in. to 3 ft.	4 ft. 6 in. to 6 ft.	3"	3"	3"		3 ft. 6 in. to 4 ft.	4 ft. 6 in. to 6 ft.	3 1/2"	3 1/2"	3 1/2"	
3 ft. 6 in. to 4 ft.	6 ft. 6 in. to 8 ft.	3 1/2"	3 1/2"	3 1/2"		4 ft. 6 in. to 5 ft.	8 ft. 6 in. to 10 ft.	4"	4"	4"	
4 ft. 6 in. to 5 ft.	8 ft. 6 in. to 10 ft.	4"	4"	4"		5 ft. 6 in. to 6 ft.	10 ft. 6 in. to 12 ft.	4 1/2"	4 1/2"	4 1/2"	

No. 11 SECTION.				No. 12 SECTION.				No. 13 SECTION.				No. 14 SECTION.			
Height.	Width.	Quality.		Height.	Width.	Quality.		Height.	Width.	Quality.		Height.	Width.	Quality.	
1 ft. 6 in. to 2 ft.	2 ft. 6 in. to 4 ft.	2 1/2"		2 ft. 6 in. to 3 ft.	3 ft. 6 in. to 4 ft.	3"		2 ft. 6 in. to 3 ft.	3 ft. 6 in. to 4 ft.	3"		2 ft. 6 in. to 3 ft.	3 ft. 6 in. to 4 ft.	3"	
2 ft. 6 in. to 3 ft.	4 ft. 6 in. to 6 ft.	3"		3 ft. 6 in. to 4 ft.	4 ft. 6 in. to 6 ft.	3 1/2"		3 ft. 6 in. to 4 ft.	4 ft. 6 in. to 6 ft.	3 1/2"		3 ft. 6 in. to 4 ft.	4 ft. 6 in. to 6 ft.	3 1/2"	
3 ft. 6 in. to 4 ft.	6 ft. 6 in. to 8 ft.	3 1/2"		4 ft. 6 in. to 5 ft.	8 ft. 6 in. to 10 ft.	4"		4 ft. 6 in. to 5 ft.	8 ft. 6 in. to 10 ft.	4"		4 ft. 6 in. to 5 ft.	8 ft. 6 in. to 10 ft.	4"	
4 ft. 6 in. to 5 ft.	8 ft. 6 in. to 10 ft.	4"		5 ft. 6 in. to 6 ft.	10 ft. 6 in. to 12 ft.	4 1/2"		5 ft. 6 in. to 6 ft.	10 ft. 6 in. to 12 ft.	4 1/2"		5 ft. 6 in. to 6 ft.	10 ft. 6 in. to 12 ft.	4 1/2"	

WROUGHT STEEL SASHES.

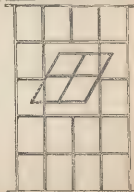
(MITRED JOINTS.)

ALSO IN WROUGHT AND CAST IRON,

From 6d. per Foot Super

Illustrations of Sections, Prices, and Full Particulars on receipt of Specification and Quantities.

WINDOW VENTILATING GEARING of all Kinds.



GEORGE WRIGHT & CO., 155, Queen Victoria St., London, E.C.

Works : ROTHERHAM.

Established 1854.



George Wright & Co. 155 Queen Victoria St. London



Section K.

Masonry, Marble, Enamelled Slate, Sculpture, Etc.

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PAGE		PAGE		PAGE	
ANCARTER STONE Co.	494	GREENBANK & EDMONDSON	498	ODLING, A., & SONS, LTD.	516A, 516B
BATH STONE FIRMS, LTD.	493	HAYNES BROS.	505	PATTERSON, J. & H.	520
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492 SEC. K—MASONRY, MARBLE, ENAMELLED SLATES, CULTURE, ETC.

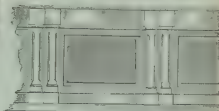
Telegraphic Address
"STATUARY LONDON"

H. W. WILKINS & SONS,

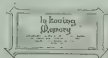
Marble Merchants, Sculptors and Masons,
88, 90, 92, 94, PENTONVILLE RD., LONDON. N



MARBLE STAIRCASES AND WALL DECORATIONS OF EVERY DESCRIPTION



COMPLETE MARBLE COUNTERS IN VARIOUS MARBLES



MURAL TABLETS TO ANY DESIGN



LAVATORY TOPS IN ALL KINDS OF MARBLE



MARBLE CHIMNEY PIECES, STOVE TILE HEARTHES, AND MARBLE FENDERS OF ALL KINDS

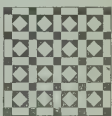
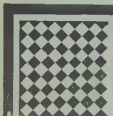
PRICES OF MARBLE FLOORS (in Black and Sicilian, not including fixing).

No 111, 10/6 yard

No 112, 10/- yard

No 108, 12/- yard

No 113, 16/- yard



DADOS, WALL-LININGS, STAIRCASES, FLOORS, AND INTERIOR DECORATIONS OF EVERY DESCRIPTION, IN CHOICE OR PLAIN MARBLES AND ALABASTER

MARBLE COUNTERS (Complete in Plain and Choice Marbles), MARBLE AND TILE SHOP FITTINGS, MARBLE AND STONE MEMORIAL TABLETS, MARBLE FENDERS AND TILE HEARTHES, MARBLE AND SLATE CHIMNEY PIECES, MARBLE LAVATORY FITTINGS, MONUMENTAL MASONRY IN MARBLE, GRANITE AND STONE

A Choice Selection of Inexpensive Artistic Chimney Pieces fitted with Stoves, Tile Hearths and Fenders on Show.

LARGE STOCK OF VERY HANDSOME ONYX BLOCKS

Work executed with special rapidity when necessary.

ESTABLISHED 33 YEARS

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Incorporating PICTOR & SONS; RANDALL, SAUNDERS & CO., Ltd.; I. SUMSION, CORSHAM BATH STONE CO., Ltd.; R. J. MARSH & CO., Ltd.; S. R. NOBLE; STONE BROS., Ltd.

QUARRIES: Box Ground, Corsham Down, Gargrave, Monk's Park, Farleigh Down, Goms Down, Stokes Ground, Westwood Ground.



Registered TRADE MARK.

BOX GROUND STONE: from the Quarries we are now working was used in—
Malmesbury Abbey, 11th to 12th century; Longest House (Marquis of Bath), 16th century; Lacock Abbey, 13th century; Bowood House (Marquis of Lansdown), 18th century, and in the ancient Churches for many miles round the quarries.
The stonework in these buildings is sound to-day, and proves the reliable weather qualities of genuine Box Ground Stone. This has led to other and very different kinds of stone being sold as Box Ground or "Box Stone," or "Box Weather" stone. To enable Architects and others to protect themselves against the manifest and serious risks attending this practice, we have registered the "St. Aldhelm" trade mark, as in the margin, for our Box Ground stone, and every block will have this mark stencilled upon it in paint.

The design of the trade mark is based on the tradition mentioned by John Aubrey, the Wiltshire antiquary of the 17th century; in his "Description of Wiltshire" under the heading "Hansbury (in Box)" he makes the following note:—
"Hansbury Quarry is not to be forgot; it is the eminentest freestone quarry in the West of England, Malmesbury, and all round the country of it."
The old men's story that St. Aldhelm, riding over there, threw down his glove and bade them digge and they should find great treasure, meaning the quarry.

By specifying the "St. Aldhelm Box Ground Stone," Architects will now be able to ensure having their buildings executed in stone from the same beds which have stood so well in the ancient buildings above mentioned.



Registered TRADE MARK.

MONK'S PARK STONE.—A compact, close-grained, and very strong stone; carries a sharp aris, is remarkably even in texture, and uniform in colour.

It continues to give great satisfaction wherever it is used. In resisting the corroding impurities of the atmosphere of London and other populous centres, and in buildings at the sea-side, it has proved itself entirely reliable.

Its unique qualities have led to its being very generally specified by name—"Monk's Park Bath Stone," and to secure Architects from disappointment through the substitution of other kinds of Stone, we are branding each block of our "Monk's Park" Stone with the registered trade mark shown in the margin.

FLUATE.

"Fluate" is now acknowledged by all who have used it to be the remedy for the decay of building stones, marbles, bricks, tiles, terra cotta, &c. It is equally effective in arresting decay in old masonry, and in preventing the decay of new work. Our experience of it has been of a uniform character. We have not had a single failure.

The leading features of the process as applied to building stones are as under:

1. It effects a chemical change in the stone, banishing its lime into an insoluble and imperishable substance. From its very nature the change is permanent. (The calcareous stones most largely used in this country are liath and Portland. Each of these contains upwards of 50 per cent. of carbonate of lime. Practically, therefore, the entire mass, so far as the solution penetrates, is effectively and permanently preserved.)
2. It renders the stone proof against (a) The action of the atmosphere in country districts, with its sudden changes of heat and cold, wet and dry. (b) The corrosive action of the salt atmosphere along the sea coast. (c) The corrosive action of the acids and other impurities which fill the air of our large cities and manufacturing centres.
3. It keeps the stones comparatively clean. Soiled dirt cannot exert a lodgement upon the hardened and virtually non-absorbent surfaces.
4. It prevents dirt rubbing off new stone on to the clothes of persons using the building.
5. It does not seal the pores of the stone, but allows it to "breathe."
6. It does not hide the surface of the stone, making it look like plaster, but leaves the grain as natural in appearance as before.
7. Nor does it paint, or glaze, or wash the stone.
8. It in no way affects the colour of the stone except to deepen the tone of new work much the same as a year's exposure in pure country air would do.
9. Its cost is moderate. The cost of fluating either Bath or Portland stonework of an ordinary character, whether old or new, is, for both materials and labour, about 1½d per foot super of exposed surface. At this nominal cost the stonework is thoroughly hardened, kept comparatively clean, and rendered practically imperishable.
10. It is applied as readily as whitewash, and requires no more skill.

Since "Fluate" has become known in this country it has led to Bath stone largely taking the place of hard and expensive stones. The colour of Bath stone is preferred by many; its nature is such as to give a soft and yet clear outline to the finest details, and it is as durable as the best planing materials that cost twice as much.

"Fluate" has been used on the South front of Westminster Abbey; on the Portland stone figures on the top of St. Paul's Cathedral; on the decayed Portland stonework of St. Martin's Church, Trafalgar Square; on the old and new stonework at Buckingham Palace; on the old and new stonework of Lambeth Palace; and on many other important buildings both in the Metropolis and Provinces.

We shall be happy to send free by post, on receipt of an application, a Pamphlet giving further information on this subject.

In case of our Masons' Shops we have a large stock of experienced workmen, and we can prepare to apply any quantity of stone dressing prepared fit for firing, and delivered in good condition.

Information as to the cost of Bath Stone, and as to the best kinds for use in different localities, and for different quantities in a building furnished on application to our Chief Offices in Bath or we will attend at any time and place for the purpose of conferring with Architects on the subject.

NOTE: We are always glad to afford Architects every facility for seeing the Quarries and inspecting the Masons' work in our Shops.

494 SEC. K—MASONRY, MARBLE, ENAMELLED SLATE, SCULPTURE, ETC.

ANCASTER STONE COMPANY, ANCASTER, GRANTHAM, LINCOLNSHIRE.

The Sole Proprietors (C. & H. KIRK) continue to supply Stone of the same fine quality as heretofore from their Old Quarries.

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JOHN BENNETT,

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MARBLE, GRANITE, AND MOSAIC WORKER,

GENERAL MARBLE AND TILE CONTRACTOR,

Marble, Tile and Ceramic Mosaic Pavements, Plain and Enamelled Slate Work, Marble Pavements, Staircases, Balustrades, Fonts, Pulpits, Mausoleums, Reredoses, Monuments, Tombs, and Marble, Alabaster, Granite and Mosaic Work of Every Description.

Works: 1, 19 and 20, BRUNSWICK MEWS, BRUNSWICK SQUARE, W.C.

A. W. BLACKLER & SON,

SPECIALITY
DEVON MARBLES.

SOLE PROPRIETORS OF THE

"PETITOR"

"OGWELL"

AND

"ASHBURTON"

QUARRIES.

Telegraphic Address "Blackler" St. Mary Church."



See Colored Plates in the 1894 Edition of the "Architects' Compendium."

SAUNDERS AND ESTIMATES ON APPLICATION FOR
Columns Pilasters Pulpits,
Fonts, Pavements, Wall Linings
Chimney Pieces, and
Ecclesiastical and General Marble Work
of every description.

ROYAL MARBLE WORKS,
ST. MARY CHURCH, TORQUAY.

THE SPITAL GRANITE WORKS.

BOWER & FLORENCE,

MANUFACTURERS OF

Polished Granite, Monuments, Red, Grey & Blue Granites, Tombs, Chimney Pieces, Columns, Pilasters,

ABERDEEN, SCOTLAND.

Grey Quarries, KINTORE

Oriental Red Quarries, SWEDEN.

Red Quarries, PETERHEAD.

CIRCULAR WORK CUT BY PATENT MACHINERY.

SPECIALITY IN POLISHED GRANITE FRONTS.



SCAGLIOLA MARBLE.

IN calling attention to our **SCAGLIOLA**, we have much pleasure in submitting the following information:—

APPLICATION.

Scagliola is applied to all forms of Interior Decoration, where Marble would be used, such as—**COLUMNS, PILASTERS, WALL LINING, DADOS, ARCHITRAVES, and PEDESTALS** for Statuary, &c.

It can be turned, moulded, or cast to any shape or design.

SPECIALITY FOR SURROUNDING IRON CORES.

When Columns are required to carry any weight, arrangements are made for the insertion of Iron Cores or Stanchions. If the Cores form part of main building, and must be erected as it progresses, the Columns are then made entire, prepared ready for polishing, and forwarded. On arrival they are cut, and placed round iron or brick Cores, cramped, and made good **WITHOUT SHOWING JOINT.**

This method of masking iron or brick Cores is becoming very general, and has been lately carried out in many important Buildings, to which reference can be made.

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With ordinary care **SCAGLIOLA** is indestructible; the **POLISH** is perfectly natural, being produced by friction and frequent stonings, as in Marble, no varnish or substance of a like nature being used. When Scagliola is prepared in a proper manner, this polish will last for twenty to thirty years, without requiring renewal.

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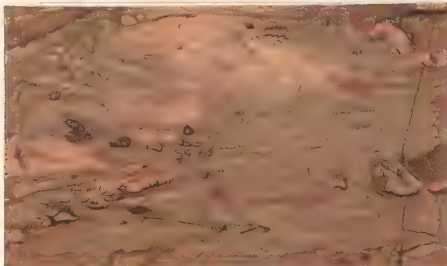
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— See Advertisements in ARCHITECT'S COMPENDIUM, 1894, pages 414, 415, and 1895, pages 500 and 501. —

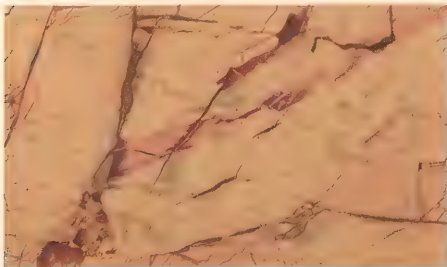
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JAUNE ANTIQUE.

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[OVER]

Numidian Marble.

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The Principal Varieties are
BRÈCHE SANGUINE,
PAVONAZZA DE NUMIDIE,
ROSE DE NUMIDIE,
JAUNE ANTIQUE,

Coloured Plates of which are shown on the other side of this and opposite page.

The Quarries from which these Marbles are taken are situated in the northern part of Africa, and were known to, and worked by, the ancient Romans.

Pliny records that they were first brought to Rome under the consulate of M. Lepidus, B.C. 77, and Suetonius says that the 20-foot column raised to Cæsar in the Forum was made of this Marble. The Emperor Hadrian used these Marbles for the decoration of his villas at Tivoli and Antium, and the Columns of the gymnasium at Smyrna and that of Athens were also of Numidian Marble. With the fall of the Roman Empire, the working of these quarries seems to have stopped, and their site became unknown, until a few years ago, an exploring party, prospecting for iron ore, accidentally stumbled on the lost quarries, and since then the demand for these Marbles on the Continent and in America, for decorative purposes, has been unparalleled.

The first official mention occurs in the report of the English Consul to his Government (Blue Book of Consular Reports of 1861,) in which he says:—

"I almost fear to say all I wish on this subject, lest I should be charged with exaggeration; but in sober truth, during the two days I spent in examining the ground in every direction, I passed from one marvel to another, and left in amazement at the magnitude of the treasure which had so long lain, I will not say concealed, but exposed to the most superfluous glances there. Were I a speculator, I might reason it to be destroyed, but as I am performing merely an official duty, I hope I may be credited with I ascertained my belief, that as regards quantity, beauty and variety, the world contains nothing comparable to the treasures of Numidian Marble in this mountain." (Dyfed Observer.)

The well-known English sculptor, Mr. John Ruskin, to whom the same Consul presented a slab of the variety "Pavonazza de Numidia," acknowledged it as follows:—

"I cannot enough thank you for the lovely slab which arrived here the day before yesterday; I have been meditating on it ever since. I think it is nearly the loveliest and most instructive Marble I ever saw, and indeed, I hope to make some use of it in the interior of our museum, of the like of it, I mean; for this must, I think, remain at Brewood, whose little museum of the stones I have especially studied, will, I hope, be useful after my death."

The variety of Colours is so great that a match can be found for almost any kind of wood or other material used for interior decorations, and the attention of Architects and Decorators is especially called to this fact.

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These Marbles have been used with effect in some of the most important buildings in the United Kingdom, amongst which are the following: British Museum, Imperial Institute, Holborn Restaurant, Victoria Hotel, Northumberland Avenue, Salisbury Hotel, Fleet Street, Messrs Russell & Allen's, Bond Street, Sir Frederick Leighton's Gallery, London, St. Aidan's Church, Leeds, and Municipal Buildings, Glasgow, Etc., Etc.

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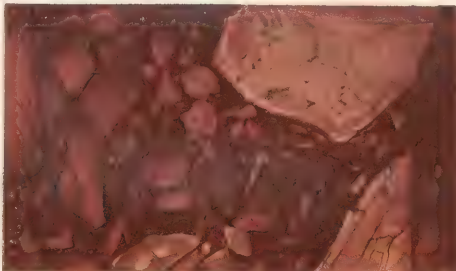
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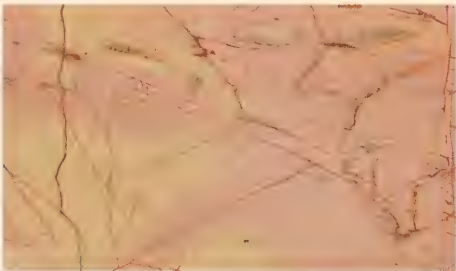
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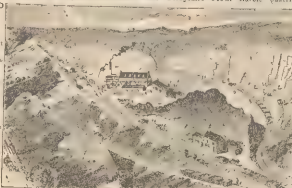
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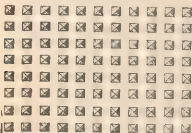
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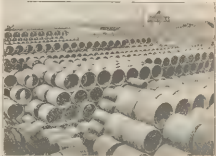
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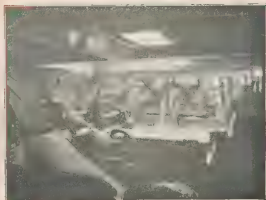
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A LARGE SELECTION OF FOREIGN MARBLES ALWAYS IN STOCK.

ANSELM ODLING & SONS, Ltd., LONDON.

Balustrades,
in Sicilian,
or any coloured
Marble.



Other Designs
and
Lowest Prices
submitted
on application.

Large Stock of TILES always on hand at London Depot.

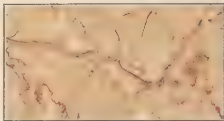


Marble Floors
in
Black and White,
or
Rouge Royal and Dove,
or any other Marbles.



Mosaic Floors
estimated for.

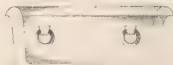
Sole Agents
for the
Beautiful
St. Sylvester
Marble.



A Stock of
St. Sylvester
will be kept
at
London,
Liverpool, and
Glasgow.



The Lowest Prices quoted for
Sicilian • Marble • Steps,
either solid or boxed.



A Large
Quantity of **Marble Baths** always ready
to be shipped.

Sicilian Marble
made in



Garden Vases
all sizes.

THE TRADE
ONLY
SUPPLIED.

The Largest Employers in Carrara of Italian Carvers, Masons, &c.

SEC. K - MASONRY, MARBLE, ENAMELLED SLATE, SCULPTURE, &c. (B)

ANSELM ODLING & SONS, Ltd.,

Telegraphic Address { ODLING,
LONDON.

Telephone No. LONDON, 11545
{ BATTERSEA, 2081.

MARBLE

MERCHANTS & QUARRY OWNERS.

LONDON Chief Office and Depot, St. KATHARINE DOCKS, E.

LONDON - Works and Depot - Victoria Road,
Battersea Park, S.W.

LIVERPOOL Depot - Rathbone Place, Gt. George
Street.

CARDIFF - Atlantic Wharf, East Bute Dock.

GLASGOW - Depot - 66, Bishop Street Anderston.

HULL - Depot Adjoining No. 5, Warehouse,
Queen's Dock.

DUBLIN - Depot - 27, Sir John Rogerson's Quay.

SYDNEY (N.S.W.) Queen's Chambers, Queen's Place.

MELBOURNE (Victoria) City Road.

SAW MILLS & STUDIOS - CARRARA, ITALY.

Large Stocks always on hand of

SICILIAN.
STATUARY.
BLANC P.

SIENNA.
DOVE.
St. ANNS.

ROUGE ROYAL.
MEXICAN ONYX.
ST. SYLVESTER.

AND OTHER COLOURED MARBLES.

SICILIAN and BLACK TILES always in Stock. Every description of Mosaic Work and Flooring estimated for

We have a large Stock, and employ an experienced Staff at our Battersea Park Works, and are enabled with the aid of improved Sawing and Polishing Machinery, to execute large orders with great despatch.

At our Carrara Establishment, under the Management of Mr. Frederic J. Odling, we employ permanently a large number of the Best Italian Sculptors and Masons, and have exceptional facilities for quoting low prices

ARCHITECTS' Designs estimated for or Drawings made, and LOWEST PRICES furnished on application

We have the Sole Agency for the Sale of St. SYLVESTER Marble and can supply Slabs & Blocks in any quantity.

For some years this delicate and beautiful marble has not been imported into the United Kingdom, but we have now made arrangements for its being again quarried, and shall be happy to quote price

A. O. & S., Ltd. have executed a large number of Public MONUMENTS, BUSTS, STATUES, STAIRCASES, &c., and are prepared to quote lowest possible prices and guarantee the Highest Class workmanship

Estimates given for Lining Swimming Baths, &c., with Marble on application.

The Trade only supplied.

[P.T.O.]

518 SEC. K—MASONRY, MARBLE, ENAMELLED SLATE, SCULPTURE, ETC.

TELEPHONE No. 8,867. Address Telegrams: "Flooring, Lots Road, Chelsea."

WESTMINSTER PATENT FLOORING CO.,

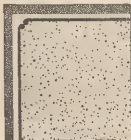
537^K, KING'S ROAD, CHELSEA, LONDON, S.W. (ONLY ADDRESS.)

A FEW DESIGNS COMPLETE COLOURED CATALOGUE ON APPLICATION, OR SEE "ARCHITECTS COMPENDIUM 1893.

MOSAIC FLOORS.—Marble, Ceramic or Vitreous. Imported direct from ship's side to our Wharf Prepared by Machinery on Premises. Laid by own staff of Italian Workmen. Send Plan and Particulars for Estimates and Sketches

Prices in Marble —For quantities of 25 yards in square rectangular spaces in London. Add freight and expenses for country work.

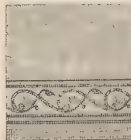
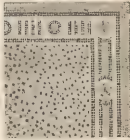
12. Marble Trazzo, Filling and Borders, 1/6.



13. Trazzo and Roman Borders, 1/10.



14. Roman Cate Mosaic, 1/10.



15. Roman Mosaic, 1/10.



16. Roman Mosaic, 1/10.



17. Price on application.

See pp. 134 and 135 for Parquet and Wood Block Floor Designs.

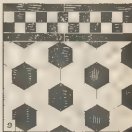
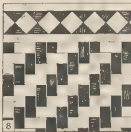
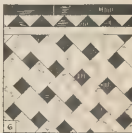
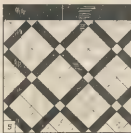
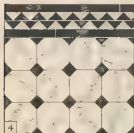
TELEPHONE No. 8,867. Address Telegrams: "Flooring, Lots Road, Chelsea."

WESTMINSTER PATENT FLOORING CO.,

537^A, KING'S ROAD, CHELSEA, LONDON, S.W. (ONLY ADDRESS.)

MARBLE PAVEMENTS (1 in. thick **LAI**D COMPLETE in London for quantities of 30 yards, in Square Rectangular Spaces Send Plans for Lump-sum Estimates.

FILLINGS For Yard Super. (Black and White.)				BORDERS For Foot Super. (Black and White.)			
n. d.	s. d.	n. d.	s. d.	n. d.	s. d.	n. d.	s. d.
1 .. 15 0	1	3 0	2 .. 10 0	1 .. 1 0	1	1 0	1
2 .. 17 0	1	6 0	3 .. 12 0	2 .. 1 0	1	1 0	1
3 .. 18 0	0	0 0	4 .. 12 0	3 .. 1 0	1	1 0	1



Large Stock of Tiles packed in cases ready for delivery to vans at wharf. Prices on Application. Architects' special designs quoted.
NOTE. Floors of Marble Mosaic and Tiles combined are effective and novel. STEPS, CURBS, &c., made and fixed in Mosaic or any Marble.

See also pp 124 and 125, for Wood Block and Parquet Designs

J. & H. PATTESON,

MARBLE WORKS,
36 and 38, Oxford Street, Manchester.

Telegraphic Address -
"PATTESON, MANCHESTER."

ESTABLISHED 1805.

Telephone
No. 1250.

IMPORTERS of and WORKERS in Every Variety of

BRITISH AND FOREIGN MARBLE, ALABASTER, GRANITE and STONE.

ARCHITECTURAL WORK, Staircases, Balustrades, Columns, Reredoses, Fonts, Monuments, &c.

MARBLE WALL LININGS and PAVEMENTS at the same cost as Tiles.

CHIMNEY PIECES: the largest Stock in the Country.

ARCHITECTURAL AND ECCLESIASTICAL MODELLERS AND SCULPTORS.

Italian Marble Mosaic Pavements,

Laid by their own Staff of Italian Workmen.

MARBLE MOSAIC ADAMANT is the most Durable, Artistic, and Inexpensive Floor obtainable.

MARBLE MOSAIC ADAMANT is also made in TILES for FLOORS and WALLS, and can be fixed by ordinary workmen. They are specially adapted for Export.

PRICES, from 7s. 6d. per square yard.

MARBLE AND MOSAIC WORKS EXECUTED AT THE FOLLOWING IMPORTANT BUILDINGS:—

Royal Infirmary, Liverpool. A. WATERHOUSE, R.A.
Truro Cath. dral. J. L. PEARSON, R.A.
Midland Railway Hotel, Bradford. C. TEUSHAW.
St. James' Church, Boodle. C. HADFIELD.
The Harris Institute, Preston. J. HENRIET.
The Cathedral, Manchester. J. S. CROWTHER.
General Infirmary, Leeds. GEORGE CORSON.
Nottingham Castle. H. WALKER, C.E.
Dunstable Hall, Staffs. GRAYSON & GUILD.
Craig House Asylum, Edinburgh. S. MITCHELL & WILSON.
Manchester and Liverpool District Bank. T. L. BARKER.
Leicestershire and Yorkshire Bank, Manchester. HEATCOTE
and RAWLEY.

The Crematorium, Manchester. SALOMONS & STEVENS.
The University, Edinburgh. DR. ROWLAND ANDERSON.
The Joint Stock Bank, Leeds. AMBER & BOWMAN.
The Yorkshire Penny Bank, LEWIS. TIERMAN & BRYMER.
The Queen's and the Royal Hotels, Cardiff. J. P. JONES.
The Institute for the Blind, Birmingham. J. A. CHATWIN.
Art Gallery, Manchester. J. M. GATFORD.
Municipal Buildings, Sheffield. E. W. MONTGOMERY.
National Portrait Gallery. ERNEST CHRISTIAN.
Royal Infirmary, Derby. HALL & YOUNG.
London and Midland Bank, Bedford. JAMES LEDINGHAM.
Manchester College, Oxford. THOS. WILKINSON & SONS.
&c., &c., &c.

DESIGNS AND ESTIMATES FREE ON APPLICATION.



Section L.

Sanitary Manufactures.

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J. TYLOR & SONS, Ltd.,
SANITARY & HYDRAULIC ENGINEERS,
BRASS & IRON FOUNDERS,
2, NEWGATE STREET, LONDON,
And at SYDNEY.

For SPECIALITIES see Page 566

Telegraphic Address—
LONDON—"SEWERAGE, LONDON" WORKS—ALBION, WOODVILLE.

Telephone No.
8303

CHICAGO EXHIBITION.

HIGHEST AWARDS.

ALBION CLAY CO., LTD.,

WOODVILLE, BURTON-ON-TRENT.

LONDON—18, NEW BRIDGE STREET, E.C.

TRADE



MARK.

SOLE MANUFACTURERS OF THE "GRANITIC-STONEWARE" PIPES.

ALL the "GRANITIC-STONEWARE" Pipes are made from "STONEWARE" Clays of which we are the SOLE PROPRIETORS. The Clays are carefully selected and blended to ensure a hard, dense, impervious and imperishable body, specially adapted for Sanitary purposes. The Pipes have a toughness, as opposed to "Brittleness" which is not possessed by any other stoneware Pipes. They have been proved to withstand the heaviest crushing and bursting pressures under tests by Kirkaldy, and other authorities at home and abroad. They are made by the most improved Patent Machinery, and are highly approved for their uniform superior quality.

ALL the Pipes, &c., for Sewerage should be of the most reliable material, non-absorbent, non-corrodible and imperishable, and must therefore be of the best kind of "STONEWARE." The "GRANITIC-STONEWARE" Pipes are of any test and are equal in every respect to the best "London made" or any other Pipes manufactured in the Dorset and Devonshire Stoneware Clays. They are made in all sizes up to 24 inches diameter, of full standard thickness, and of various lengths up to 3 feet for 6 inch and upwards. They can be supplied by Truck at any station, or by van to any part of London and district at 10 per cent. less than is charged for the best quality of London-made Pipes, by the most approved makers.

"TESTED PIPES."

Tested under Hydraulic pressure, and stamped The price for Tested pipes is about 25 per cent. above ordinary prices. As an additional security for the best class of work, it is advisable that the Pipes should be specially selected and tested at a further cost of 25 per cent. All the Pipes are stamped with the Trade Mark, "GRANITIC-STONEWARE."



PATENT PARAGON PIPES SYKES' PATENT JOINT PIPES SYKES' PATENT SEWER GAS INTERCEPTOR JONES & SYKES' PATENT CHANNEL BENDS

For full Description of
these Specialities
see
"ARCHITECTS' COMPENDIUM."
pp. 518, 518a, 519, 519a.
for 1895

SANKEY'S PATENT DEEP INTERCEPTING GULLEY.

This is provided with a specially constructed Perforated Galvanized Iron Bucket, which collects all debris, and is easily removed without untrapping the drains.

KEITH'S PATENT TRAP.

This has been designed to provide a simple and convenient means of Testing the Drains and for Flushing and Disinfecting them. It also serves as a Yard Gully.

SYPHONS, GULLIES, INTERCEPTORS, &c.

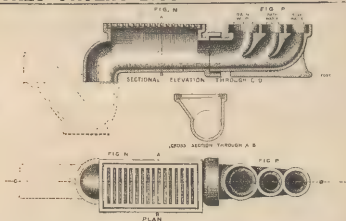
... of Patent Paragon Sockets thereby avoiding any check to the flush in forcing solace through the Traps. The Inspection Arms fitted with SYKES' PATENT AIR-TIGHT SCREW STOPPERS, which cannot be blown out. (See next Page.)

INVERT, JUNCTION, AND GULLEY BLOCKS. STREET GULLIES TO ANY SIZE.

Telegraphic Address:
LONDON—"SEWERAGE, LONDON." WORKS—"ALBION, WOODVILLE."

TELEPHONE No.
Area

SYKES' PATENT DISCONNECTING SLIPPER.



BOWES-SCOTT & WESTERN, LIMITED,

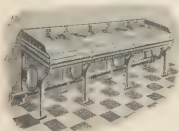
Telegraphic Address—
"DOWNSHIRE, LONDON."

BROADWAY CHAMBERS,

4 WESTMINSTER, LONDON. W.

Telephone—
No. 3199.

IMPROVED SCHOOL LAVATORY.



No. 62. With heavy fire-clay slabs, skirting back and sides, concealed overflow, lin. brass screw-down tap, carelessly plug, C.I. Standards with adjustable supports for waste pipe; braced back and front with angle iron. Sizes of slabs 20 in. by 18 in.: Basin 14½ in. by 12 in.

With Salt glazed slab	...	...	£2 5 per basin.
" Buff	"	"	2 10 "
" White	"	"	2 15 "

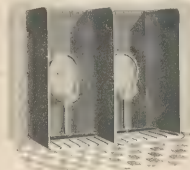
Extra for slabs 24 in. by 18 in. Size of basin 18 in. by 12 in.

Salt Glaze 4s., Buff 5s., White 6s. 6d. per basin.

Extra for 3 in. painted cast iron horizontal waste-pipe, with socket for branch pipe and brass screw cap at end for cleaning, 6s. 6d. per basin

If two screw-down taps required, 6s. 6d. per basin extra

IMPROVED BASIN URINALS.



No. 41. Plain Slate Urinal, 2 ft. stalls, backs 5 ft. high, ends 2 ft. by 5 ft., divisions 1 ft. 6 in. by 5 ft., white Enamelled Lipped Basins, with down pipes, brown glazed gutter, brass pipe connections and gun-metal grid.

For range of three or more persons per stall 4 15 0

Do., do., in Enamelled Slatework " 6 2 6

" " in Best Polished Sicilian Marble 8 0 0

" " " " Rouge Royal " 10 10 0

" " " " St. Anne's " 10 10 0

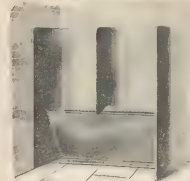
" " in Rouge Royal div., St. Anne's backs 10 0

White enamelled gutter ... extra per stall 0 6 0

Brown glazed fluted foot plate " 0 12 0

White enamelled ditto " " 1 0 0

TROUGH URINALS FOR USE IN FACTORIES, SCHOOLS, &c.



No. 42. Plain Slate Urinal, 2 ft. stalls, backs 5 ft. high, ends 5 ft. by 2 ft., divisions 3 ft. by 1 ft. 6 in., riser 2 ft. high. Cream glazed trough, capping, brown glazed gutter, &c.

	2 persons per stall.	Additional stalls.
In Plain Slate	4 0 0	3 0 0 each
In Enamelled Slate	6 7 0	4 17 6 "

GROSVENOR PATENT GULLIES.

NEW RIVAL CLOSETS.

PRICE LIST ON APPLICATION.

BOWES-SCOTT & WESTERN, LIMITED,

Telegrams: "BOWES"
"LONDON" LONDON.

BROADWAY CHAMBERS,
4 WESTMINSTER, LONDON. 4

Telephone—
No. 5199.

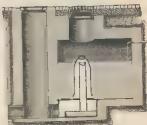
Sole Licensees and Manufacturers of
ROGERS FIELD'S

NEW "1889 PATENT" SELF-ACTING SIPHON.

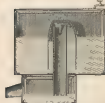
HIS LATEST IMPROVED INVENTION
FOR FLUSHING.



	Diameter This Siphon	Price	Standard weight of	Price extra per
	inches	each foot	the range	foot for extra
			Length	Length
Size			Feet	Feet
A	4	4 2 0	1	0 5 0
B	5	5 10 0	3	0 12 0
C	7	7 12 6	4	0 18 0
D	8	10 16 0	4	1 10 0
E	10	10 10 0	5	1 11 0
F	12	10 10 0	5	1 12 0



AUTOMATIC GALVANIZED IRON FLUSHING CISTERN.
(Fitted with Rogers Field's "1889 Patent" Self-acting Siphon).
FOR HOUSE DRAINS.



To contain	100 Gallons	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
Feet	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Price	12 0 0	13 0 0	14 0 0	15 0 0	16 0 0	17 0 0	18 0 0	19 0 0	20 0 0	21 0 0	22 0 0	23 0 0	24 0 0	25 0 0	26 0 0	27 0 0	28 0 0	29 0 0	30 0 0

AUTOMATIC FLUSHING CHAMBER FOR CLEANSING TOWN SEWERS.

Prevents dangerous Deposits in Drains, and the
Inability to the evil effects of Sewer Gas.
Undoubtedly the most perfect and reliable yet made.
Gives Greatest Velocity of Discharges with economy
of water.

Certain and Popular in its action.

SIPHONS for use in Brick and Concrete Chambers may be had with TRAPPING BOXES complete, already fitted
together so that they can be easily connected with the Sewers or Drains.

BOWES-SCOTT & WESTERN, LTD., are the Sole Licensees and Manufacturers of this Patent, and all enquiries should be addressed to them direct.

BOWES-SCOTT & WESTERN'S SELF-CLEANSING TROUGH CLOSET.

See page 526 for details of this and other
Sanitary Appliances.

It is one of the very large number of London Board
Sanitary Appliances, and is a case of the Sanitary Board
Sanitary Appliances.

Self-cleaning, and do not require an
Attendant.

Readily flushes, with certainty of
action.

Absolutely Auto-
matic.

No Valves,
or Hugs,
or Working Parts.

TROUGH
ORINALS

See page 526

Price 10/-

In arranging the W.C. more space should be allowed for the end seats so as to reduce the inlet
and outlet.

FIELDS INTERCEPTING TRAP. IMPROVED FLUSHING GREASE TRAP.

Awards Certificates of Merit at Liverpool Health Exhibition, 1894, for Automatic Flushing Grease Traps & Latrines.

PRICE LIST ON APPLICATION.

PLAIN SALT GLAZED STONWARE LATRINES.

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 12 6 } For each seat beyond this number, 12/6

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

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For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

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For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

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For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

For Seats 5 ft. 6 in. centre to centre—

For 2 seats, £1 10 0 } For each seat beyond this number, 12/6

BANNER'S PATENT EXHAUST VENTILATORS

FOR PRIVATE AND PUBLIC BUILDINGS.



No. 33 C TURRET VENTILATOR.



No. 33 D SOIL PIPE VENTILATOR.



No. 33 E ROOF VENTILATOR.

DIMENSIONS.	No. 33 C Turret Ventilator		No. 33 D Soil Pipe Ventilator		No. 33 E Roof Ventilator	
	INTERNAL OVER WT.	BASE OUTSIDE	HEIGHT OVER ALL	PRICE.	No. 33 E ROOF VENTILATOR	PRICE.
No. 33 C. Turret Ventilator	5 1/2	1 1/2	2 1/2	2 2 0	1 1/2	1 1/2
"	5 1/2	1 1/2	2 1/2	2 4 0	1 1/2	1 1/2
"	5 1/2	1 1/2	2 1/2	2 6 0	1 1/2	1 1/2
No. 33 D. Soil Pipe Ventilator	7 1/2	1 1/2	2 1/2	2 8 0	1 1/2	1 1/2
"	10 1/2	1 1/2	2 1/2	3 0 0	1 1/2	1 1/2
"	13 1/2	1 1/2	2 1/2	3 2 0	1 1/2	1 1/2
"	16 1/2	1 1/2	2 1/2	3 4 0	1 1/2	1 1/2
"	19 1/2	1 1/2	2 1/2	3 6 0	1 1/2	1 1/2
"	22 1/2	1 1/2	2 1/2	3 8 0	1 1/2	1 1/2

AUTOMATIC TANKS. BATHS, VARIOUS. CISTERNS VARIOUS. CLOSET APPARATUS. CLOSET FITTINGS. DRAIN PIPES. DRAIN CHANNELS. DRAIN TRAPS. DUST BINS. EARTH CLOSETS. FILTERS. LAVATORIES. MANHOLE COVERS. SINKS, VARIOUS. TRAPS, VARIOUS. URINALS. VENTILATORS.

DRAIN TESTING BY SCENT OR WATER.

BANNER'S SELF-ACTING "RAPID" DRAIN TESTER.



No. 1. Ready for Use.

- A SPECIAL CHEMICAL. D ELASTIC RUBBER BAND.
B GLASS TUBE. E CORD HOLDER.
C WOODEN CASE. F PAPER ATTACHMENT.
G BRASS COUPLING RING

DIRECTIONS FOR USE.—Hold the Cord E., place the Tester in a W.C Pan; flush it into drain with a pail of hot water, when it will at once discharge, as shown in Fig. 2.

PRICE 9s. PER DOZ. SPECIAL PRICE FOR GROSS LOTS.

Improved Drain Plugs, with Gun-Metal Bolts.

For applying the WATER or SMOKE TESTS. They are EASILY ADJUSTED, LIGHT, and PORTABLE



- Plug for 3-in. Drain each 7s. Plug for 9-in. Drain each 20s.
" 4-in. " " 8s. " 12-in. " " 30s.
" 6-in. " " 12s. " 15-in. " " 40s.

Send for CATALOGUE of SANITARY APPLIANCES to



No. 2. Section of Fig. 1.



BANNER SANITATION CO., 24, CRAVEN STREET, CHANCERY CROSS, LONDON, W.C.

L SANITARY MANUFACTURES.

For School and General Sanitary Appliances, see new Catalogue, free on application

Fig. 2. ADAMS' Patent Automatic Flushing Latrine.



Price, including latrine pan in special brown glazed ware, patent automatic flush tank, and down-pipe

Persons,

£6 5 6 £8 13 0 £10 10 6 £11 5 0 £13 10 6

Ring seats—pine, 6 6, pitch pine or cypress, and varnished, 7 6 each. Latrine, as Fig. 27, 21 each, tanks, &c., extra
For trough closet or other forms, see Catalogue

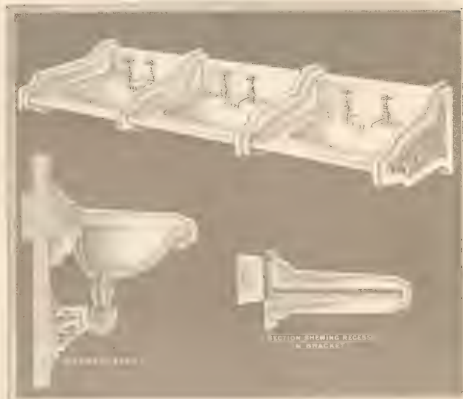
ADAMS & CO.

Albert Square GLASGOW—107 St. Vincent Street. LEEDS—Park Lane Sanitary Works and Aire St. YORK—Engineering Works, Peaseholme Green. BIRMINGHAM—28 and 30 Church Street. DUBLIN—11 Cope St.

Telegraphic Address, all Branches SANIFERA.

L—SANITARY MANUFACTURES.

Fig. 81. ADAMS' Patent "Helios" Registered Lavatory Range,
On Brackets.



All in highly-glazed earthenware, with glazed ware wall brackets. For other modifications, see Catalogue
 Price—In white glazed earthenware, each basin, for children, £2 17 6; larger size, £3 10 0.
 If wall brackets, &c., as shown in section, and longitudinal waste pipe, extra

ADAMS & CO.

Albert Square. GLASGOW—107 St. Vincent Street. LEEDS—Park Lane Sanitary
 Works and Aire St. YORK—Engineering Works, Peaseholme Green. BIRMINGHAM
 —28 and 30 Church Street DUBLIN—1 Cope Street.

Telegraphic Address, all Branches SANIFERA.

L SANITARY MANUFACTURES.

c

Figs. 61 & 62. ADAMS' Patent "Lumina" Syphonic Closet.



Price—Glazed ware slab syphonic or wash-down closet, for seat hinged to the eyes, shewn at
"Lumina" syphonic, straw out white in, 67/6; or wash down, the "Epic," 57/6; oak or teak seat, 75/.

" " all white, 75/; " " 65/.

" " Fig. 62A plain, as shewn—straw and white, 57/6; all white, 65/.

See Catalogue for various special and other closets.

ADAMS & CO.

Albert Square. GLASGOW—107 St. Vincent Street. LEEDS—Park Lane Sanitary Works and Aire St. YORK—Engineering Works, Peaseholme Green. BIRMINGHAM—28 and 30 Church Street. DUBLIN—1 Cope Street.

Telegraphic Address, all Branches—SANIFERA.

L SANITARY MANUFACTURES.

Fig. 358. ADAMS' Pat. "Helios" R. J. Glazed Ware Urinal.



Price—"Helios" urinal, as shown, but without flush tank, back and basin in one piece ware down pipe, and fluted tile and waste channel

Best brown glazed ware, £6 15 0; straw, £7 7 0, white, £8 8 0 per stall

It is impossible to give here any adequate representation of the many special manufactures recently introduced. Full Catalogue will be furnished, free on application, of suitable for all classes of works.

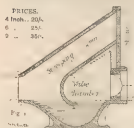
ADAMS & CO.

ALBERT SQUARE GLASGOW—107 St. Vincent Street. LEEDS—Park Lane Sanitary Works and Aire St. YORK—Engineering Works, Peaseholme Green. BIRMINGHAM—28 and 30 Church Street. DUBLIN—1 Copthall Street

Telegraphic Address, all Branches SANIFERA.

BAKER'S PATENT CUP VALVE.

PRICES.
4 inch... 20s.
6 " 25s.
8 " 35s.



The Cup Valve Intercepting Trap is a new and improved device for intercepting and holding sewage in the main sewer line. It is a simple and reliable device, and is the only one of its kind. The Cup Valve is a new and improved device for intercepting and holding sewage in the main sewer line. It is a simple and reliable device, and is the only one of its kind.

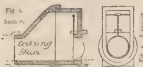


PLATE.
Covering Plate, extra, 5/6.
4 inch, 10s.
6 " 15s.
8 " 20s.

MAY BE OBTAINED FROM ALL BUILDERS' MERCHANTS.
Manufacturers: G. SKEY & Co., Ltd., Wincote, Tamworth.
Inventor and Patentee: T. H. BAKER, Consultant Architect, Colchester and Clacton-on-Sea.

BOSTEL'S SANITARY APPLIANCES.



BOSTEL'S IMPROVED EXCELSIOR W.C., as illustrated, possesses all the advantages of the Wash-down and Wash-out W. C.'s, and the increased demand for it shows it is appreciated both sides of the Atlantic.

BOSTEL'S SILENT CISTERN "IS SILENT."

BOSTEL'S DRAIN FLUSHER "DOES FLUSH."

BOSTEL'S INTERCEPTING TRAP "IS BEST."

— FULL PARTICULARS OF —

D. T. BOSTEL & SONS, 73, Ebury Street, London, S. W.

MANY A GOOD HOUSE IS SPOILT by the absence of proper system of protection for the water pipes. Messrs. BOSTEL & SONS' PATENT AUTOMATIC SYSTEM will prevent trouble in the coldest weather without stopping the supply or turning off a single stop-tap, and it can be SEEN IN ACTION at above address.

T. & C. CLARK & CO., OF WOLVERHAMPTON.



CLARK'S
ROMAN & OTHER PATTERN
BATHS
ARE LINED WITH VITRIFIED
PORCELAIN ENAMEL.
This pattern for dressing room
has the rolled edge Enamelled
White.

Price List of Baths in General
Sanitary Ware Catalogue on
application.

Delivered free to any Town
in England if on a Railway.

Fig. 1 and 2—5ft. 6in. and 6ft. 6in. sizes made.

THE BOURTREEHILL COAL Co.,

FIRE-CLAY DEPARTMENT.

Telegraph & Address:
 "P.O. BOX 100, DREGHORN
 LONDON W.C. 2, A.Y.R. 100
 Telephone No. 25, L.R. 100

Dreghorn, Kilmarnock.

Manufacturer of all Kinds of

FIRE CLAY GOODS

INCLUDING:

PORCELAIN ENAMELLED FIRE-CLAY BATHS.
 WHITE & YELLOW ENAMELLED SINKS, WASH-TUBS, & CLOSETS.
 ENAMELLED FIRE-CLAY DRINKING-WATER CISTERNS, & MILK COOLERS.
 ENAMELLED BRICKS, WHITE AND COLOURED.
 ENAMELLED FIRE-CLAY WATER CLOSETS.

FROM our Extensive Coal Fields, we are able to command, at all times, an abundant supply of the Special and Superior Fire-Clay, which is confined to this District of Scotland, and from which alone Enamelled Bricks, and other Enamelled Articles, can be produced, of that quality which meets all the requirements now demanded of this Class of Goods.

Highest Award obtained at the International Health Exhibition, London, 1884; Prize Medal, Sanitary Institute, 1886.

Superior Glazed Sewerage Pipes, 2 in. to 24 in. diameter; Strong Glazed Wall-Pipes, 3 ft. diameter Water Cisterns, Picking Pots, Casks, and Pig Troughs, Horse Mangers, Byre Grop, Fire Bricks, White Facing Bricks, Gas Retorts, Flue Covers, Furnace Bricks, Chambered Paving Bricks, Curbing Channels, Tiles, Compressed Flooring Tiles, Wall Coping, Chimney Cans (plain and ornamental), Fine Linings and Oncomings, Joint Shields, &c. Garden Bordering, White Enamelled and Salt-Glazed Ballusters, Flower Boxes, Rustic Ware, Flower Vases, Statuary, &c.

ENAMELLED & SALT-GLAZED FIRE-CLAY SANITARY WARE,

FOR DRAINAGE WORKS, comprising:—
 BOURTREEHILL VENTILATING DRAIN TRAP,

MILLER'S PATENT DRAIN TRAP,
 GOWAN'S PATENT DRAIN TRAP,
 GOWAN'S PATENT GREASE TRAP,
 ARMSTRONG'S PATENT INSPECTION
 OPENINGS,
 ARMSTRONG'S RAIN WATER TRAP,
 ETC., ETC.



DRAIN TRAP No. 1.



DRAIN TRAP No. 2.

FULTON'S PATENT GREASE TRAP,
 COMMON GREASE TRAPS,
 GULLY TRAPS, SYPHONS, AND
 DESSPOOLS.
 HART'S TRAP,
 & P. A. TRAPS,
 ETC., ETC.

SPECIAL YELLOW GLAZED S AND F PIPES for House Drainage.

WHITE ENAMELLED FIRE-CLAY BACKS AND CHANNELS, for Street Urinals.

BROAD & CO'S WHITE ENAMELLED "EXCELLO" GREASE TRAP.

BROAD & CO'S PATENT WHITE ENAMELLED CHANNEL BENDS AND CHANNEL INTERCEPTORS for Manholes (very Complete System).

SILVER MEDAL, INTERNATIONAL HEALTH EXHIBITION, 1884; PRIZE MEDAL AND 3 CERTIFICATES OF MERIT, SANITARY INSTITUTE, 1885.
 PRIZE MEDAL AND 2 CERTIFICATES OF MERIT, SANITARY INSTITUTE, 1892.

SHIPPING PORTS—IRVINE, ARDROSSAN, TROON, GLASGOW, GREENOCK,
 CHARLESTOWN, KIRKCALDY, BURNTISLAND, CRANTON, AND LEITH.

DEPOTS AND AGENTS:

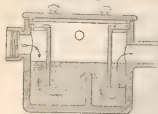
EDINBURGH—WM. CLUNAS & CO., 28, ALBERT PLACE, LEITH WALK.
 GLASGOW—R. B. STEWART & CO., 120-130, SALKELD STREET.
 LONDON—BROAD & CO., 2 & 4, SOUTH WILKIN,Paddington, W.
 DUBLIN—J. McFERRAN & CO., 4, BEAUFORT PLACE.
 BELFAST—C. KIRKWOOD, 101, CORPORATION STREET.

Catalogues, Price Lists, and other Information, on application to—

BOURTREEHILL COAL Co., DREGHORN, Ayrshire, N.B.

THE BOURTREEHILL COAL COMPANY, DREGHORN, KILMARNOCK.

FULTON'S PATENT IMPROVED VENTILATING GREASE TRAP.
For Intercepting Grease from Kitchen Sinks or other Discharge Cisterns.



SIDE VIEW

Price per Vent. Trap	At Works
10 in. dia. 14 in. high	15/- Ea.
12 in. dia. 16 in. high	20/- Ea.
14 in. dia. 18 in. high	25/- Ea.

Fitted with Galvanized Cast Iron Lids and Rubber Washers

in	in	in	at
10	14	17 1/2	30/- Ea.
12	16	19	40/- Ea.



PLAN

Armstrong's Patent Improved Inspection Openings for Drains.



Inspection Opening at right hand side



Plan on Top of Branch at right



Plan on Top of Double Branch



Plan on Top of Specimen Inspection Opening



Elevation of Single Branch in position



Plan on Top of Head at left



Section of Single Branch at right



Plan on Top of Head at right



Plan on Top of Single Branch at left

The Drawings of ARMSTRONG'S PATENT INSPECTION OPENINGS, shown above, are examples. We make these Patent Inspection Openings with inlets to any angle specified.

Prices, with Socket on Top, at Works or on Rail, Dreghorn

1 inch dia. and one Inlet .. at 4/6 Ea.	5 inch Outlet, and one Inlet .. at 5/3 Ea.	6 inch dia. and one Inlet .. at 1/- Ea.
two Inlets .. 5/6 "	two Inlets .. 6/3 "	two Inlets .. 1/1 "
three Inlets .. 7/6 "	three Inlets .. 7/3 "	three Inlets .. 1/2 "
four Inlets .. 8/6 "	four Inlets .. 8/3 "	four Inlets .. 1/3 "

Square Pipes for Inspection Shafts, with Socket 12 in. high x 6 in. square, at 1/2 Ea.

Square to Round Pipes to connect Inspection Opening with ordinary drain pipe, 6 in. square to 6 in. round at 1/2 Ea.

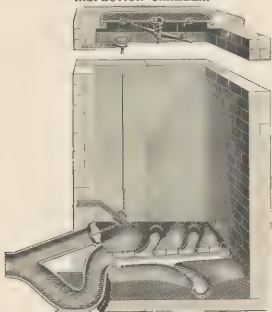
When ordering please say Size of Outlet, and Size and Angles of Inlets.

BOURTREEHILL FIRECLAY WORKS, DREGHORN, Ayrshire, AND LOCHHEAD FIRECLAY WORKS, DUNFERMLINE.

BROAD & CO.,

Brickmakers, Sanitary Specialists,
LIME, CEMENT, & TILE MERCHANTS.

INSPECTION CHAMBER.



Illustrating the Application of
 BROAD & CO.'S LOCKING MANHOLE COVER (FIG. 2),
 BROAD & CO.'S CHANNEL INTERCEPTOR (FIG. 377.)
(As Originally Designed by the Firm.)
 BROAD & CO.'S WHITE ENAMELLED CHANNEL BENDS, and
 HAWTREY & REEKIE'S PATENT RELIEF VALVE.

BROAD & CO. were the first to introduce White Enamelled Ware into general use for the manufacture of Channel Bends, Interceptors, Grease and Gully Traps, &c., and, many of their designs having been imitated, Architects and Engineers should see that all Specialities purporting to be supplied by BROAD & CO. bear the Name of the Firm.

2 & 4, SOUTH WHARF, PADDINGTON, W., & FINCHLEY ROAD (L. & N. W. Ry. Station), N.W.
 Brickfields and Gravel Pits WEST DRAYTON.

New Catalogue in course of compilation.

Illustration
No
7045

BROAD & CO.

"THE MOST PERFECT INTERCEPTOR"

Broad & Co's Channel Interceptors

VERTICAL FULL INTERCEPTOR

EASY FLUSH INTERCEPTOR



These interceptors have been designed by Messrs. Broad & Co. for the purpose of intercepting and flushing out the contents of the sewer at the point of entry into the main sewer.

PRICES OF EITHER PATTERN

Size	Per Foot	Per Yard
6 in.	1/6	1/2
8 in.	1/4	3/4
10 in.	1/3	1
12 in.	1/2	1 1/2
14 in.	3/4	2 1/4
16 in.	1	3
18 in.	1 1/4	4 1/4
20 in.	1 3/4	5 1/4
22 in.	2	6
24 in.	2 1/4	7 1/4
26 in.	2 3/4	8 1/4
28 in.	3	9
30 in.	3 1/4	10 1/4

Broad & Co's Channel Interceptors are made of cast iron, and are supplied in lengths of 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, and 30 feet.

For further particulars, apply to Messrs. Broad & Co., 2 & 4 South Wharf, Paddington, London, W.

2 & 4 SOUTH WHARF, PADDINGTON, LONDON, W.

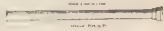
Illustration
No
7048

BROAD & CO.

SPECIAL HEAVY

Cast-Iron Drain Pipes

HEATED WITH ADDED IMPROVEMENT



Size	Per Foot	Per Yard	Per 10 Yards	Per 20 Yards	Per 30 Yards
6 in.	1/6	1/2	5	10	15
8 in.	1/4	3/4	7 1/2	15	22 1/2
10 in.	1/3	1	10	20	30
12 in.	1/2	1 1/2	15	30	45
14 in.	3/4	2 1/4	22 1/2	45	67 1/2
16 in.	1	3	30	60	90
18 in.	1 1/4	4 1/4	41 1/4	82 1/2	123 1/4
20 in.	1 3/4	5 1/4	50 1/4	100 1/2	150 1/4
22 in.	2	6	60	120	180
24 in.	2 1/4	7 1/4	71 1/4	142 1/2	213 1/4
26 in.	2 3/4	8 1/4	81 1/4	162 1/2	243 1/4
28 in.	3	9	90	180	270
30 in.	3 1/4	10 1/4	101 1/4	202 1/2	303 1/4

For further particulars, apply to Messrs. Broad & Co., 2 & 4 South Wharf, Paddington, London, W.

2 & 4 SOUTH WHARF, PADDINGTON, LONDON, W.

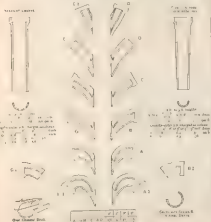
Illustration
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7046

BROAD & CO.

Broad & Co's Improved Patent Channel Bends

Made of White Cast-Iron and Steel

These channel bends are made of white cast-iron and steel, and are supplied in lengths of 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, and 30 feet.



30 PATENTED DESIGNER PLANT SHOWN BY MEANS OF COPY

2 & 4 SOUTH WHARF, PADDINGTON, LONDON, W.

Illustration
No
7047

BROAD & CO.

Broad & Co's Improved Stable Gully



These stable gullies are made of cast-iron and are supplied in lengths of 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, and 30 feet. They are designed to intercept and flush out the contents of the sewer at the point of entry into the main sewer.

PRICES

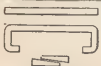
Size	Per Foot	Per Yard	Per 10 Yards	Per 20 Yards	Per 30 Yards
6 in.	1/6	1/2	5	10	15
8 in.	1/4	3/4	7 1/2	15	22 1/2
10 in.	1/3	1	10	20	30
12 in.	1/2	1 1/2	15	30	45
14 in.	3/4	2 1/4	22 1/2	45	67 1/2
16 in.	1	3	30	60	90
18 in.	1 1/4	4 1/4	41 1/4	82 1/2	123 1/4
20 in.	1 3/4	5 1/4	50 1/4	100 1/2	150 1/4
22 in.	2	6	60	120	180
24 in.	2 1/4	7 1/4	71 1/4	142 1/2	213 1/4
26 in.	2 3/4	8 1/4	81 1/4	162 1/2	243 1/4
28 in.	3	9	90	180	270
30 in.	3 1/4	10 1/4	101 1/4	202 1/2	303 1/4



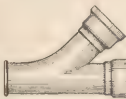
2 & 4 SOUTH WHARF, PADDINGTON, LONDON, W.

BURN BROTHERS,

Sanitary Engineers, Plumbers, Hot Water and Gas Fitters, &c.

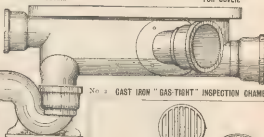
BRIDGE & WEDGE FASTENING
FOR COVER.

COVER.

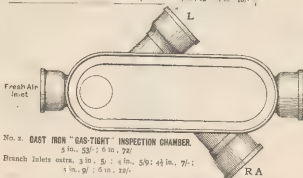
BRIDGE & WEDGE FASTENING
FOR COVER.

No. 23 INSPECTION BRANCH.

5 inches ..	..	13/9
6	..	26/-



No. 2 CAST IRON "GAS-TIGHT" INSPECTION CHAMBER.

No. 11 TRAP.
4 in. 12 6 in. 16/-No. 18A.
GULLY INLET
WITH BRANCH
FOR RAIN
WATER PIPE.4 in. 12/6. To Fit into No. 11 or
No. 12 Traps.

No. 2. CAST IRON "GAS-TIGHT" INSPECTION CHAMBER.

5 in. 53/-; 6 in. 72/-

Branch Inlets extra, 3 in. 5/-; 4 in. 5/6; 4½ in. 7/-;
5 in. 9/-; 6 in. 12/-

Cast Iron Absolutely "Gas-Tight" House Drainage Work a Speciality.

A few illustrations of our latest work are shown above. Fully illustrated Catalogue will
be sent on Application.PLUMBING and SANITARY WORK UNDERTAKEN in any part of the Kingdom or Abroad, and
we Guarantee all Drainage Work Executed by us to be Absolutely "Gas tight"

FIRST CLASS MATERIALS and WORKMANSHIP GUARANTEED.

23 & 24, CHARING CROSS, WHITEHALL, LONDON, S.W.,

ALSO AT

71, Hanover St., and 20, Thistle St., Edinburgh.

BURN BROS'. PATENT SANITARY APPLIANCES.

White Porcelain Enamelled Fireclay Sink

WITH PATENT "ANTI-FLOODING" OVERFLOW.

The Overflow is fitted with a strong Brass-hinged Grating, which affords easy access for cleansing the overflow right down to the bottom of the Trap.

The Overflow carries off all the water delivered by the taps.

Flooding nearly impossible—an important consideration for upper floors.

These Sinks are made in the best ware, and finished with exceedingly hard and durable Enamel.



CANTILEVER BRACKETS,

For fixing Sink against Wall, made with Spout right and left



BURN BROS.' PATENT LAVATORIES.



These LAVATORIES are constructed on the same principle as the above Sink, and as every part of the waste is accessible for cleansing, they can be kept absolutely free from any objectionable smell.

They are fitted either with Plug and Chain or with arrangement to actuate the Plug by means of a lift pull.

"ECLIPSE" PATENT DRAIN-TESTER.

This is the ONLY SMOKE GENERATOR, of any description whatsoever, which supplies a positive test to Drains.



PRICES

Machine & Tube (without plug), 54/- Deal Painted Case, 10/-

— IMPROVED EXPANDING PLUGS FOR DRAIN TESTING. —

Made in Seven Sizes, from 2 in. to 15 in. diameter.

It consists of a double-action bellows covered with specially-prepared leather, and a copper cylinder or vessel with an outer casing, which latter is filled with water. In this casing a cover or float is placed, which rises and falls with the action of the bellows. The hose must be connected to the drain or pipe to be tested, and all openings, such as ventilating pipes, plugged. A few strokes of the bellows will raise the float, and if it remains stationary the drain will prove tight. If the float falls a leak exists, and may be traced by using the smoke test.

A great advantage in using these Machines is that the operator can ascertain whether the drain is tight or not without leaving the apparatus. This apparatus is invaluable to Plumbers, Builders, Inspectors of Nuisances, Sanitary Inspectors, &c.

SANITARY ENGINEERS, &c.,

23 & 24, Charing Cross, Whitehall, London, S.W., also at 71, Hanover St. & 20, Thistle St., Edinburgh

CAMERON & ROBERTON,

Architectural, Pipe, and General Ironfounders,
SOUTH BANK IRON WORKS, KIRKINTILLOCH, NEAR GLASGOW.

Speciality—SANITARY CASTINGS.

CAST IRON DRAIN PIPES specially smooth inside, INSPECTION OR ACCESS PIPES, DISCONNECTING CHANNELS, TRAPS, &c., being the latest developments and improvements devised by the leading Sanitary Engineers to meet the requirements of Mansions, Houses, Villas, Hospitals, Asylums, and all Public Buildings.

THREE PATENT SANITARY SPECIALITIES.

"TRON" Inspection Eyes. "WAVERLEY" TRAP.

Having Circular Opening;
Giving Exceptional Facilities
for Inspecting
and Cleansing Drain.



KEITH'S WATER-TESTING, DISINFECTING & FLUSHING TRAP.

The Simplest mode of
Drain Testing in the
Market.



DETACHABLE SOIL PIPE CONNECTIONS.

For Jointing
Iron and Lead Soil Pipes
without the use of
Brass Ferrules or Solder.

Full Descriptive Circulars
on Application.



THE ADVANTAGES OF IRON DRAIN PIPES OVER THE ORDINARY FIRE-CLAY ONE ARE—

Strength to resist external pressure. Freedom from danger by subsidence of ground. Perfectly tight joints. No escape of gas through porous pipes. The smoothness of the internal surfaces prevents risk of obstruction or clogging. There are special facilities for inspection and flushing.

ALL THE SIZES OF MEDIUM AND HEAVY SOIL PIPES, AND ALL DRAIN PIPES, ARE FULL INTERNAL DIAMETER.

All our Castings may be supplied with Internal Surfaces GLASS ENAMELLED.

In order to meet the wishes of Architects and Sanitary Engineers, and to prevent misunderstandings in carrying out specifications, weights are given for the various sizes of pipes. This affords the fullest opportunity for ascertaining that what has been specified is being used in carrying out the work.

ALL DRAIN AND SOIL PIPES BEAR THE FIRM'S TRADE MARK—MONOGRAM IN STAR.

ALSO

RAIN WATER PIPES, GUTTERS AND CONNECTIONS. HOT WATER HEATING APPARATUS
W. W. PIPE SOCKET AND SPIGOT AND WITH EXPANSION JOINTS. FLAT PIPES. RADIATORS. COILS, &c.
ORNAMENTAL GRATINGS. BLUE PIPES UP TO 10' DIAMETER. GAS, WATER AND STEAM PIPES.

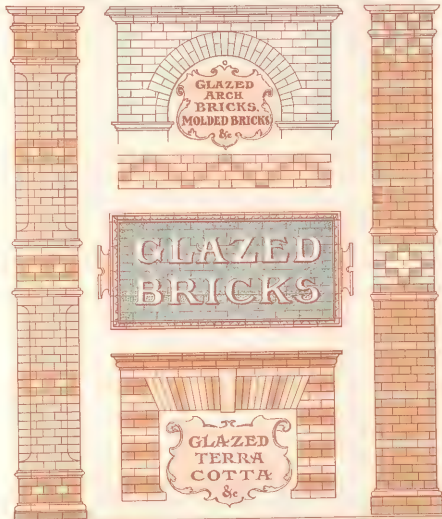
DRAWINGS WILL BE FURNISHED ON APPLICATION.

ESTABLISHED 101 YEARS.

JOSEPH GLIFF & SONS WORTLEY LEEDS

BRANCH OF THE LEEDS FIRE CLAY CO. LTD.

MANUFACTURERS OF EVERY DESCRIPTION OF



LIVERPOOL
21 Leeds St

LONDON

Baltic Wharf Waterloo Bridge S.E.
and 2 & 4 Wharves (inside) G.N. Goods
Station. Kings Cross N. ~~~~~

LEEDS
Queen St

JOSEPH CLIFF & SONS, WORTLEY, LEEDS

BRANCH OF THE LEEDS FIRECLAY COMPANY, LIMITED.

FIRECLAY WATER CLOSETS.

No 4a



The "TITAN."
(WITH SEAT EXTENSION.)

A perfect Wash-down Closet. Has an extension of back of flushing rim for attaching seat, so that no brackets or fixing to wall is required.

Price: White inside, Buff outside 35/-

No 7



The "NAUTILUS."

A Wash-down Closet of exceedingly ornamental appearance, very compact, and excellent in action.

Price: White inside. Buff outside 35/-

No 16



The "SAVOY"

All the most perfect advantages of the wash-out system are secured in this Closet, the whole bowl and outlet being cleansed at each flush.

Price: White inside. Buff outside 32/6

No 4a



The "TITAN."
(WITH SEAT EXTENSION.)

Showing the seat attached to Closet by pins through the extension.

Price of Seat, in Polish Oak, with Nickel-plated hinges

No 10a



The "VIENNA."

The most perfect Wash-out Closet in the market. Retains a large pool of water in bottom of basin, and flushes with ease and certainty.

Price: White inside. Buff outside 32/6

No 17



The "BELVEDERE."

This is a Wash-down Closet of the most satisfactory kind. It takes up very little room, and unites a good appearance with the most perfect action.

Price: White inside, Buff outside 30/-

No 4a



The "TITAN."
S Outlet.

Shown as required by London County Council, so that the joint with soil pipe may be made above the floor line.

Price: White inside, Buff outside 32/6

No 11



BOLDING'S "KENON"

This is a most satisfactory Wash-down Closet. The design is simple and elegant, and the flushing is perfect. Large quantities in use.

Price: White inside, Buff outside 38/-

No 17a



The "BELVEDERE."
S Outlet

This sketch shows the Closet as made to the requirements of the London County Council, with the connection to soil pipe above the floor line.

Price: White inside, Buff outside 30/-

No 4c



The "TITAN."
Flange Outlet.

Shown as made with flange for attaching to metal pipe for P or S outlet, which may be bent in any direction.

Price: White inside, Buff outside 32/6

No 11a



BOLDING'S "KENON."
S Outlet

Another form of this most excellent Closet, as modified to suit the requirements of the London County Council, the outlet being above floor level.

Price: White inside, Buff outside 38/-

No 17b



The "BELVEDERE"
P Outlet.

Another form of this most desirable Closet, still retaining the peculiar shape of bowl and trap which are so satisfactory in the other forms.

Price: White inside, Buff outside 30/-

EXTRA STRONG RUBBER CONES FOR THESE CLOSETS, 19 EACH

LONDON BALTIC WHARF, WATERLOO BRIDGE, S.E., AND 2 & 4 WHARVES, G.N, GOODS STATION, KING'S CROSS, N.
LIVERPOOL: 21, LEEDS STREET. LEEDS. QUEEN STREET

FLOODED BASEMENTS IMPOSSIBLE!

The back-flow of Water AND SEWER-GAS prevented by using

COUZENS' PATENT GULLY TRAPS.



No. 1.

These Gullies supply a long felt want as effectually preventing the back-flow of Tidal or Storm water, and the arising of Sewer-gas. The action in each case is automatic. In No. 1, it will be observed that any back pressure of water rises the copper ball against an India-rubber seating, thus making an effectual seal, and should the water evaporate, as is sometimes the case in dry weather, the ball lowers on to the bottom seating as shown, forming a perfect seal against Sewer gas arising.

With No. 2 it will be observed that there is a door with a weighted lever, which allows the water to pass through into the Gully, and closes automatically, forming a perfect seal against back-flow of Water and arising of Sewer-gas.



No. 2.

COUZENS' PATENT BALL-TRAP INTERCEPTOR.

This Ball-trap Interceptor supplies a long-felt want, as it effectually prevents any back-flow of Tidal or Storm Water from the Main Sewers. It will be observed that the action is automatic, and any back pressure of water rises the Copper Ball against an India-rubber Seating, thus forming an effectual seal.



An easy access to the drains is also obtained in case of stoppage, which can be readily dealt with, without opening up the ground, as drain rods can be easily applied either to the house or sewer from the Inspection Chamber, as shown.

There are hundreds of these traps now in use in Cardiff and throughout the Kingdom, and the following are a few of the Corporations and Estates to which we have supplied them, viz.:

Liverpool,
Widnes,
Dundee,
Aberdeen,
Blackburn,
St. Helens,
Newark,
Lymington.

Manchester,
St. George,
Bristol,
Droitwich,
Borlase,
Durham,
Tadworth,
Carlisle,
and the Great Western and Great Northern Railway Companies, also in France and Germany, &c.

Birmingham,
Wolverhampton,
Hanley,
The Vestry of St. George,
The Martyr,
West Ham,
Abingdon,
Beverly

Wotton Ferry,
Kingsley,
Weston-Super-Mare,
Tydeman,
Folkestone,
Malton, Yorks,
Barnmouth,
Great Harwood.

Walsley, Worsley,
Leicester, and Board,
Thornhill District Council,
The Duke of Norfolk,
Lord Portman.

We are also Makers of a PATENT BASEMENT W.C., which automatically prevents the back-flow of Sewerage during flood or tide times—a great boon where ground floor space is valuable.

COUZENS' PATENT INTERCEPTOR or INSPECTION CHAMBER.

By the use of this Interceptor an easy access to the drains is obtained, and the stoppages of drains are readily dealt with, without opening up the ground, as drain rods can be easily applied either to the house or to the sewer from the Inspection Chamber as shown.



The Iron Cover Joints are perfectly Gas and Water tight, being bedded in suitable material and secured to the Earthenware with Brass Screws, therefore being self-contained, it will be observed that in most cases brick masons and plumbers covers would not be necessary making it the cheapest and most efficient double-action Interceptor manufactured.

The Borough Engineer of Cardiff, W. HARPER, Esq., M.I.C.E., has thoroughly approved of these Traps, and no Basement should be without them.

Stocked in 3 sizes, suitable for a 4, 6, or 9 drain. Special and larger sizes if required.
Patented in Foreign Countries and the United States.

For prices and illustrations, list of Agents, &c., apply to the Patentees—

G. & F. COUZENS, Works and Offices, **14, Tudor Road, Cardiff,**

Or to **HENRY DENNIS,** Sole Manufacturer—Pipe, Brick, and Terra Cotta Manufacturer, RUABON.

THOMAS CRAPPER & CO.'S

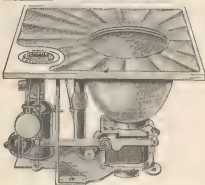
SPECIALITIES.



IMPROVED LAVATORY BASIN.

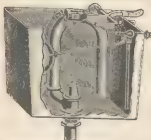
£ s. d.

White Ware, 26½ in. x 20½ in., fitted with combined Overflow and Waste, and ½ in. Standard Screw-down Valves 2 19 6
Plated Fittings, Extra 0 8 6



IMPROVED ELASTIC VALVE CLOSET, WITH WHITE CHINA TOP AND DISH IN ONE PIECE.

No. 188. Valve Closet, with white ware flushing-rim basin, 1-in. supply valve, copper air regulator, complete as shown £4 14 6
If with 1½-in. valve Extra 0 3 6
" Ornamental Basin 0 3 6
" White and Gold Basin 0 8 9
" Box Enamelled inside 0 4 9
" Box fitted with Brass Top 0 6 3
" Box fitted with union to connect Ventilating Pipe 0 3 9
" 1 in. outlet 0 7 9
If without China Top Less 1 5 0



Water Waste Preventer.

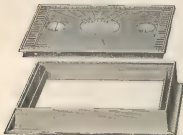
£ s. d.

Cast-Iron 2 Gallon SYPHON WASTE PREVENTER with Tranquil Inlet Valve, and Silencing Air Tubes, and Brass Chain and China Pull 1 0 6
Ditto, 3 gallon ditto 1 2 6

50, 52, & 54, MARLBOROUGH ROAD, CHELSEA,
LONDON, S.W.

THOMAS CRAPPER & CO.'S

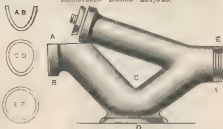
IMPROVED SANITARY
Air-Tight Frames and Covers,
FOR DRAINS & MANHOLES.



Outside	Inside	Frame	Cover
35 in by 24 in... 30 1/2 in	by 19 1/2 in... 22 0	.. 37 5	
26 .. 20 .. 21 ..	21 .. 10 0	39 6	
25 1/2 .. 21 1/2 .. 20 ..	16 .. 14 0	23 9	
20 .. 20 .. 15 ..	15 .. 10 0	17 9	
24 .. 17 .. 15 ..	15 .. 11 0	19 3	
24 1/2 .. 17 1/2 .. 21 ..	6 .. 8 9	14 6	
30 1/2 .. 17 1/2 .. 30 1/2 ..	6 .. 12 3	20 6	
30 .. 24 .. 24 ..	18 .. 17 0	29 3	

"IMPROVED XENON"
Disconnecting Trap.

REGISTERED DESIGN 231,040.



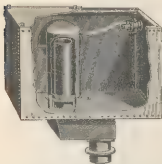
No. 3	Of glazed stoneware	4-in.	6-in.	9-in.	12-in.
	If Traps glazed white inside, extra	8/6	10/6	22/9	55/-
	" " " " white inside and	3/6	4/-	7/6	—
	out, extra	7/-	8/-	15/-	—
	Improved Channel Pipe, white glazed	2/4	3/4	5/6	16/6

IMPROVED GREASE TRAP.

REGISTERED NO. 138873.



Improved Automatic Flush Tanks
FOR DRAINS.



	£	s.	d.
10 Gallons ...	2	7	■
15 ..	2	11	6
20 ..	2	15	6
25 ..	2	19	0
30 ..	3	4	6
40 ..	3	12	6
50 ..	4	2	8
60 ..	4	12	■
75 ..	5	6	■
100 ..	5	19	■
150 ..	7	9	6

	£	s.	d.
Glazed Stoneware with			
Galvanised Iron Grate	0	17	6
If with Air-tight Cover,			
extra ...	0	1	6

— CATALOGUE ON APPLICATION.

50, 52, & 54, MARLBOROUGH ROAD, CHELSEA,
LONDON, S.W.

ESTABLISHED OVER HALF A CENTURY.

Hillhead Enamelled Brick Works,
Perceon Fire-Clay Works,
Longpack Sanitary Pottery,
KILMARNOCK.

J. & M. CRAIG,

Lillehill Fire-Clay Works,
DUNFERMLINE,
Hillhead and Perceon Collieries,
KILMARNOCK.

MANUFACTURERS OF WHITE & COLOURED ENAMELLED BRICKS

**WHITE ENAMELLED SINKS, WASHING TUBS, &c.,
WHITE ENAMELLED FIRE-CLAY BACKS FOR STREET URINALS, FIRE-CLAY TROUGH
CLOSETS, AND WHITE ENAMELLED TROUGH URINALS.**

Highly Glazed Drain Pipes and Connections, Gully Traps, Disconnecting Traps, Siphons, Cesspools,
Grease Traps, Jeaming Saddles, Open Channel Pipes, Yard Traps &c. Cattle and Pig Troughs, Horse Mangers,
Enamelled Milk Coolers, Water Cisterns, Facing Bricks, Fire Bricks, Furnace Blocks,
Gas Retorts, Chimney Cases, Flower Vases, Statuary and every Description of Fire-Clay Goods

CRAIG'S No. 88 REGISTERED LAVATORY



Warranted No. 88

PLUMBERS' SANITARY EARTHENWARE.

Lavatories, Tip-up Basins,

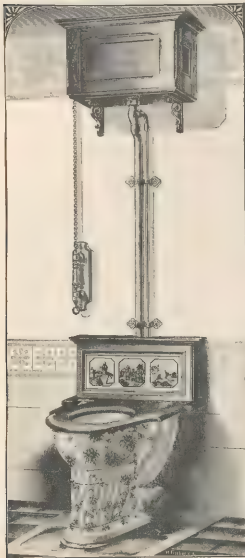
PLUG BASINS, URINALS, WASH-DOWN CLOSETS, &c.
GLAZED WALL TILES, WHITE, TINTED, & ENAMELLED.

THE "MYPHOS" PATENT SYMPHONIC WASH-DOWN CLOSET & CISTERN.

CRAIG'S WHITE ENAMELLED FIRE-CLAY SINKS were awarded Prize Medal by the
Sanitary Institute, 1881, and Silver Medal at the International Health Exhibition, 1884.

Overseas: 24" x 14" x 4" 12 1/2; 27" x 15" x 4" 12 1/2; 30" x 16" x 4" 12 1/2; 33" x 17" x 4" 12 1/2; 36" x 18" x 4" 12 1/2; 39" x 19" x 4" 12 1/2; 42" x 20" x 4" 12 1/2; 45" x 21" x 4" 12 1/2; 48" x 22" x 4" 12 1/2; 51" x 23" x 4" 12 1/2; 54" x 24" x 4" 12 1/2; 57" x 25" x 4" 12 1/2; 60" x 26" x 4" 12 1/2; 63" x 27" x 4" 12 1/2; 66" x 28" x 4" 12 1/2; 69" x 29" x 4" 12 1/2; 72" x 30" x 4" 12 1/2; 75" x 31" x 4" 12 1/2; 78" x 32" x 4" 12 1/2; 81" x 33" x 4" 12 1/2; 84" x 34" x 4" 12 1/2; 87" x 35" x 4" 12 1/2; 90" x 36" x 4" 12 1/2; 93" x 37" x 4" 12 1/2; 96" x 38" x 4" 12 1/2; 99" x 39" x 4" 12 1/2; 102" x 40" x 4" 12 1/2; 105" x 41" x 4" 12 1/2; 108" x 42" x 4" 12 1/2; 111" x 43" x 4" 12 1/2; 114" x 44" x 4" 12 1/2; 117" x 45" x 4" 12 1/2; 120" x 46" x 4" 12 1/2; 123" x 47" x 4" 12 1/2; 126" x 48" x 4" 12 1/2; 129" x 49" x 4" 12 1/2; 132" x 50" x 4" 12 1/2; 135" x 51" x 4" 12 1/2; 138" x 52" x 4" 12 1/2; 141" x 53" x 4" 12 1/2; 144" x 54" x 4" 12 1/2; 147" x 55" x 4" 12 1/2; 150" x 56" x 4" 12 1/2; 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279" x 99" x 4" 12 1/2; 282" x 100" x 4" 12 1/2; 285" x 101" x 4" 12 1/2; 288" x 102" x 4" 12 1/2; 291" x 103" x 4" 12 1/2; 294" x 104" x 4" 12 1/2; 297" x 105" x 4" 12 1/2; 300" x 106" x 4" 12 1/2; 303" x 107" x 4" 12 1/2; 306" x 108" x 4" 12 1/2; 309" x 109" x 4" 12 1/2; 312" x 110" x 4" 12 1/2; 315" x 111" x 4" 12 1/2; 318" x 112" x 4" 12 1/2; 321" x 113" x 4" 12 1/2; 324" x 114" x 4" 12 1/2; 327" x 115" x 4" 12 1/2; 330" x 116" x 4" 12 1/2; 333" x 117" x 4" 12 1/2; 336" x 118" x 4" 12 1/2; 339" x 119" x 4" 12 1/2; 342" x 120" x 4" 12 1/2; 345" x 121" x 4" 12 1/2; 348" x 122" x 4" 12 1/2; 351" x 123" x 4" 12 1/2; 354" x 124" x 4" 12 1/2; 357" x 125" x 4" 12 1/2; 360" x 126" x 4" 12 1/2; 363" x 127" x 4" 12 1/2; 366" x 128" x 4" 12 1/2; 369" x 129" x 4" 12 1/2; 372" x 130" x 4" 12 1/2; 375" x 131" x 4" 12 1/2; 378" x 132" x 4" 12 1/2; 381" x 133" x 4" 12 1/2; 384" x 134" x 4" 12 1/2; 387" x 135" x 4" 12 1/2; 390" x 136" x 4" 12 1/2; 393" x 137" x 4" 12 1/2; 396" x 138" x 4" 12 1/2; 399" x 139" x 4" 12 1/2; 402" x 140" x 4" 12 1/2; 405" x 141" x 4" 12 1/2; 408" x 142" x 4" 12 1/2; 411" x 143" x 4" 12 1/2; 414" x 144" x 4" 12 1/2; 417" x 145" x 4" 12 1/2; 420" x 146" x 4" 12 1/2; 423" x 147" x 4" 12 1/2; 426" x 148" x 4" 12 1/2; 429" x 149" x 4" 12 1/2; 432" x 150" x 4" 12 1/2; 435" x 151" x 4" 12 1/2; 438" x 152" x 4" 12 1/2; 441" x 153" x 4" 12 1/2; 444" x 154" x 4" 12 1/2; 447" x 155" x 4" 12 1/2; 450" x 156" x 4" 12 1/2; 453" x 157" x 4" 12 1/2; 456" x 158" x 4" 12 1/2; 459" x 159" x 4" 12 1/2; 462" x 160" x 4" 12 1/2; 465" x 161" x 4" 12 1/2; 468" x 162" x 4" 12 1/2; 471" x 163" x 4" 12 1/2; 474" x 164" x 4" 12 1/2; 477" x 165" x 4" 12 1/2; 480" x 166" x 4" 12 1/2; 483" x 167" x 4" 12 1/2; 486" x 168" x 4" 12 1/2; 489" x 169" x 4" 12 1/2; 492" x 170" x 4" 12 1/2; 495" x 171" x 4" 12 1/2; 498" x 172" x 4" 12 1/2; 501" x 173" x 4" 12 1/2; 504" x 174" x 4" 12 1/2; 507" x 175" x 4" 12 1/2; 510" x 176" x 4" 12 1/2; 513" x 177" x 4" 12 1/2; 516" x 178" x 4" 12 1/2; 519" x 179" x 4" 12 1/2; 522" x 180" x 4" 12 1/2; 525" x 181" x 4" 12 1/2; 528" x 182" x 4" 12 1/2; 531" x 183" x 4" 12 1/2; 534" x 184" x 4" 12 1/2; 537" x 185" x 4" 12 1/2; 540" x 186" x 4" 12 1/2; 543" x 187" x 4" 12 1/2; 546" x 188" x 4" 12 1/2; 549" x 189" x 4" 12 1/2; 552" x 190" x 4" 12 1/2; 555" x 191" x 4" 12 1/2; 558" x 192" x 4" 12 1/2; 561" x 193" x 4" 12 1/2; 564" x 194" x 4" 12 1/2; 567" x 195" x 4" 12 1/2; 570" x 196" x 4" 12 1/2; 573" x 197" x 4" 12 1/2; 576" x 198" x 4" 12 1/2; 579" x 199" x 4" 12 1/2; 582" x 200" x 4" 12 1/2; 585" x 201" x 4" 12 1/2; 588" x 202" x 4" 12 1/2; 591" x 203" x 4" 12 1/2; 594" x 204" x 4" 12 1/2; 597" x 205" x 4" 12 1/2; 600" x 206" x 4" 12 1/2; 603" x 207" x 4" 12 1/2; 606" x 208" x 4" 12 1/2; 609" x 209" x 4" 12 1/2; 612" x 210" x 4" 12 1/2; 615" x 211" x 4" 12 1/2; 618" x 212" x 4" 12 1/2; 621" x 213" x 4" 12 1/2; 624" x 214" x 4" 12 1/2; 627" x 215" x 4" 12 1/2; 630" x 216" x 4" 12 1/2; 633" x 217" x 4" 12 1/2; 636" x 218" x 4" 12 1/2; 639" x 219" x 4" 12 1/2; 642" x 220" x 4" 12 1/2; 645" x 221" x 4" 12 1/2; 648" x 222" x 4" 12 1/2; 651" x 223" x 4" 12 1/2; 654" x 224" x 4" 12 1/2; 657" x 225" x 4" 12 1/2; 660" x 226" x 4" 12 1/2; 663" x 227" x 4" 12 1/2; 666" x 228" x 4" 12 1/2; 669" x 229" x 4" 12 1/2; 672" x 230" x 4" 12 1/2; 675" x 231" x 4" 12 1/2; 678" x 232" x 4" 12 1/2; 681" x 233" x 4" 12 1/2; 684" x 234" x 4" 12 1/2; 687" x 235" x 4" 12 1/2; 690" x 236" x 4" 12 1/2; 693" x 237" x 4" 12 1/2; 696" x 238" x 4" 12 1/2; 699" x 239" x 4" 12 1/2; 702" x 240" x 4" 12 1/2; 705" x 241" x 4" 12 1/2; 708" x 242" x 4" 12 1/2; 711" x 243" x 4" 12 1/2; 714" x 244" x 4" 12 1/2; 717" x 245" x 4" 12 1/2; 720" x 246" x 4" 12 1/2; 723" x 247" x 4" 12 1/2; 726" x 248" x 4" 12 1/2; 729" x 249" x 4" 12 1/2; 732" x 250" x 4" 12 1/2; 735" x 251" x 4" 12 1/2; 738" x 252" x 4" 12 1/2; 741" x 253" x 4" 12 1/2; 744" x 254" x 4" 12 1/2; 747" x 255" x 4" 12 1/2; 750" x 256" x 4" 12 1/2; 753" x 257" x 4" 12 1/2; 756" x 258" x 4" 12 1/2; 759" x 259" x 4" 12 1/2; 762" x 260" x 4" 12 1/2; 765" x 261" x 4" 12 1/2; 768" x 262" x 4" 12 1/2; 771" x 263" x 4" 12 1/2; 774" x 264" x 4" 12 1/2; 777" x 265" x 4" 12 1/2; 780" x 266" x 4" 12 1/2; 783" x 267" x 4" 12 1/2; 786" x 268" x 4" 12 1/2; 789" x 269" x 4" 12 1/2; 792" x 270" x 4" 12 1/2; 795" x 271" x 4" 12 1/2; 798" x 272" x 4" 12 1/2; 801" x 273" x 4" 12 1/2; 804" x 274" x 4" 12 1/2; 807" x 275" x 4" 12 1/2; 810" x 276" x 4" 12 1/2; 813" x 277" x 4" 12 1/2; 816" x 278" x 4" 12 1/2; 819" x 279" x 4" 12 1/2; 822" x 280" x 4" 12 1/2; 825" x 281" x 4" 12 1/2; 828" x 282" x 4" 12 1/2; 831" x 283" x 4" 12 1/2; 834" x 284" x 4" 12 1/2; 837" x 285" x 4" 12 1/2; 840" x 286" x 4" 12 1/2; 843" x 287" x 4" 12 1/2; 846" x 288" x 4" 12 1/2; 849" x 289" x 4" 12 1/2; 852" x 290" x 4" 12 1/2; 855" x 291" x 4" 12 1/2; 858" x 292" x 4" 12 1/2; 861" x 293" x 4" 12 1/2; 864" x 294" x 4" 12 1/2; 867" x 295" x 4" 12 1/2; 870" x 296" x 4" 12 1/2; 873" x 297" x 4" 12 1/2; 876" x 298" x 4" 12 1/2; 879" x 299" x 4" 12 1/2; 882" x 300" x 4" 12 1/2; 885" x 301" x 4" 12 1/2; 888" x 302" x 4" 12 1/2; 891" x 303" x 4" 12 1/2; 894" x 304" x 4" 12 1/2; 897" x 305" x 4" 12 1/2; 900" x 306" x 4" 12 1/2; 903" x 307" x 4" 12 1/2; 906" x 308" x 4" 12 1/2; 909" x 309" x 4" 12 1/2; 912" x 310" x 4" 12 1/2; 915" x 311" x 4" 12 1/2; 918" x 312" x 4" 12 1/2; 921" x 313" x 4" 12 1/2; 924" x 314" x 4" 12 1/2; 927" x 315" x 4" 12 1/2; 930" x 316" x 4" 12 1/2; 933" x 317" x 4" 12 1/2; 936" x 318" x 4" 12 1/2; 939" x 319" x 4" 12 1/2; 942" x 320" x 4" 12 1/2; 945" x 321" x 4" 12 1/2; 948" x 322" x 4" 12 1/2; 951" x 323" x 4" 12 1/2; 954" x 324" x 4" 12 1/2; 957" x 325" x 4" 12 1/2; 960" x 326" x 4" 12 1/2; 963" x 327" x 4" 12 1/2; 966" x 328" x 4" 12 1/2; 969" x 329" x 4" 12 1/2; 972" x 330" x 4" 12 1/2; 975" x 331" x 4" 12 1/2; 978" x 332" x 4" 12 1/2; 981" x 333" x 4" 12 1/2; 984" x 334" x 4" 12 1/2; 987" x 335" x 4" 12 1/2; 990" x 336" x 4" 12 1/2; 993" x 337" x 4" 12 1/2; 996" x 338" x 4" 12 1/2; 999" x 339" x 4" 12 1/2; 1002" x 340" x 4" 12 1/2; 1005" x 341" x 4" 12 1/2; 1008" x 342" x 4" 12 1/2; 1011" x 343" x 4" 12 1/2; 1014" x 344" x 4" 12 1/2; 1017" x 345" x 4" 12 1/2; 1020" x 346" x 4" 12 1/2; 1023" x 347" x 4" 12 1/2; 1026" x 348" x 4" 12 1/2; 1029" x 349" x 4" 12 1/2; 1032" x 350" x 4" 12 1/2; 1035" x 351" x 4" 12 1/2; 1038" x 352" x 4" 12 1/2; 1041" x 353" x 4" 12 1/2; 1044" x 354" x 4" 12 1/2; 1047" x 355" x 4" 12 1/2; 1050" x 356" x 4" 12 1/2; 1053" x 357" x 4" 12 1/2; 1056" x 358" x 4" 12 1/2; 1059" x 359" x 4" 12 1/2; 1062" x 360" x 4" 12 1/2; 1065" x 361" x 4" 12 1/2; 1068" x 362" x 4" 12 1/2; 1071" x 363" x 4" 12 1/2; 1074" x 364" x 4" 12 1/2; 1077" x 365" x 4" 12 1/2; 1080" x 366" x 4" 12 1/2; 1083" x 367" x 4" 12 1/2; 1086" x 368" x 4" 12 1/2; 1089" x 369" x 4" 12 1/2; 1092" x 370" x 4" 12 1/2; 1095" x 371" x 4" 12 1/2; 1098" x 372" x 4" 12 1/2; 1101" x 373" x 4" 12 1/2; 1104" x 374" x 4" 12 1/2; 1107" x 375" x 4" 12 1/2; 1110" x 376" x 4" 12 1/2; 1113" x 377" x 4" 12 1/2; 1116" x 378" x 4" 12 1/2; 1119" x 379" x 4" 12 1/2; 1122" x 380" x 4" 12 1/2; 1125" x 381" x 4" 12 1/2; 1128" x 382" x 4" 12 1/2; 1131" x 383" x 4" 12 1/2; 1134" x 384" x 4" 12 1/2; 1137" x 385" x 4" 12 1/2; 1140" x 386" x 4" 12 1/2; 1143" x 387" x 4" 12 1/2; 1146" x 388" x 4" 12 1/2; 1149" x 389" x 4" 12 1/2; 1152" x 390" x 4" 12 1/2; 1155" x 391" x 4" 12 1/2; 1158" x 392" x 4" 12 1/2; 1161" x 393" x 4" 12 1/2; 1164" x 394" x 4" 12 1/2; 1167" x 395" x 4" 12 1/2; 1170" x 396" x 4" 12 1/2; 1173" x 397" x 4" 12 1/2; 1176" x 398" x 4" 12 1/2; 1179" x 399" x 4" 12 1/2; 1182" x 400" x 4" 12 1/2; 1185" x 401" x 4" 12 1/2; 1188" x 402" x 4" 12 1/2; 1191" x 403" x 4" 12 1/2; 1194" x 404" x 4" 12 1/2; 1197" x 405" x 4" 12 1/2; 1200" x 406" x 4" 12 1/2; 1203" x 407" x 4" 12 1/2; 1206" x 408" x 4" 12 1/2; 1209" x 409" x 4" 12 1/2; 1212" x 410" x 4" 12 1/2; 1215" x 411" x 4" 12 1/2; 1218" x 412" x 4" 12 1/2; 1221" x 413" x 4" 12 1/2; 1224" x 414" x 4" 12 1/2; 1227" x 415" x 4" 12 1/2; 1230" x 416" x 4" 12 1/2; 1233" x 417" x 4" 12 1/2; 1236" x 418" x 4" 12 1/2; 1239" x 419" x 4" 12 1/2; 1242" x 420" x 4" 12 1/2; 1245" x 421" x 4" 12 1/2; 1248" x 422" x 4" 12 1/2; 1251" x 423" x 4" 12 1/2; 1254" x 424" x 4" 12 1/2; 1257" x 425" x 4" 12 1/2; 1260" x 426" x 4" 12 1/2; 1263" x 427" x 4" 12 1/2; 1266" x 428" x 4" 12 1/2; 1269" x 429" x 4" 12 1/2; 1272" x 430" x 4" 12 1/2; 1275" x 431" x 4" 12 1/2; 1278" x 432" x 4" 12 1/2; 1281" x 433" x 4" 12 1/2; 1284" x 434" x 4" 12 1/2; 1287" x 435" x 4" 12 1/2; 1290" x 436" x 4" 12 1/2; 1293" x 437" x 4" 12 1/2; 1296" x 438" x 4" 12 1/2; 1299" x 439" x 4" 12 1/2; 1302" x 440" x 4" 12 1/2; 1305" x 441" x 4" 12 1/2; 1308" x 442" x 4" 12 1/2; 1311" x 443" x 4" 12 1/2; 1314" x 444" x 4" 12 1/2; 1317" x 445" x 4" 12 1/2; 1320" x 446" x 4" 12 1/2; 1323" x 447" x 4" 12 1/2; 1326" x 448" x 4" 12 1/2; 1329" x 449" x 4" 12 1/2; 1332" x 450" x 4" 12 1/2; 1335" x 451" x 4" 12 1/2; 1338" x 452" x 4" 12 1/2; 1341" x 453" x 4" 12 1/2; 1344" x 454" x 4" 12 1/2; 1347" x 455" x 4" 12 1/2; 1350" x 456" x 4" 12 1/2; 1353" x 457" x 4" 12 1/2; 1356" x 458" x 4" 12 1/2; 1359" x 459" x 4" 12 1/2; 1362" x 460" x 4" 12 1/2; 1365" x 461" x 4" 12 1/2; 1368" x 462" x 4" 12 1/2; 1371" x 463" x 4" 12 1/2; 1374" x 464" x 4" 12 1/2; 1377" x 465" x 4" 12 1/2; 1380" x 466" x 4" 12 1/2; 1383" x 467" x 4" 12 1/2; 1386" x 468" x 4" 12 1/2; 1389" x 469" x 4" 12 1/2; 1392" x 470" x 4" 12 1/2; 1395" x 471" x 4" 12 1/2; 1398" x 472" x 4" 12 1/2; 1401" x 473" x 4" 12 1/2; 1404" x 474" x 4" 12 1/2; 1407" x 475" x 4" 12 1/2; 1410" x 476" x 4" 12 1/2; 1413" x 477" x 4" 12 1/2; 1416" x 478" x 4" 12 1/2; 1419" x 479" x 4" 12 1/2; 1422" x 480" x 4" 12 1/2; 1425" x 481" x 4" 12 1/2; 1428" x 482" x 4" 12 1/2; 1431" x 483" x 4" 12 1/2; 1434" x 484" x 4" 12 1/2; 1437" x 485" x 4" 12 1/2; 1440" x 486" x 4" 12 1/2; 1443" x 487" x 4" 12 1/2; 1446" x 488" x 4" 12 1/2; 1449" x 489" x 4" 12 1/2; 1452" x 490" x 4" 12 1/2; 1455" x 491" x 4" 12 1/2; 1458" x 492" x 4" 12 1/2; 1461" x 493" x 4" 12 1/2; 1464" x 494" x 4" 12 1/2; 1467" x 495" x 4" 12 1/2; 1470" x 496" x 4" 12 1/2; 1473" x 497" x 4" 12 1/2; 1476" x 498" x 4" 12 1/2; 1479" x 499" x 4" 12 1/2; 1482" x 500"

J. DIMMOCK & CO.,



"SIPHONIC" CLOSET.

(BARTHOLOMEW'S PATENT)

THE LATEST DEVELOPMENT
IN WATER CLOSETS.

Large Water Area without
Mechanism.

Simple Wash-Down Type.

Perfect and Silent Action.

Astounding
Velocity of Discharge.

LEAD TRAP attached to
Pottery with Brass Coupling
for wiped Plumber's Joint.

EMBODYING ALL THE
REQUIREMENTS OF THE DAY.

Testimonials sent on application, also illustrated
English Catalogue of the various Sanitary Appli-
ances J. Dimmock & Co. Manufacture, and used by
Her Majesty's Office of Works, War Office, London
County Council, Local Boards, London Vestries,
Metropolitan Asylums Board, London School
Board, and general High Class Fittings for
Mansions, Schools, &c. &c.

SANITARY POTTERS,
MAKERS OF EVERY DESCRIPTION OF
SANITARY EARTHENWARE

LARGE VARIETY OF
**Wash Down and Wash Out
Closets, Lavatories, Urinals, &c.**
Send for Price List and Catalogue.

**ALBION WORKS,
HANLEY, STAFF.**

W. D. CLIFF, Sole Proprietor.

Telegraphic Address: "CLIFF, HANLEY."

GUEST & CHRIMES,
(Established 1840.)
FOUNDRY AND GENERAL BRASS WORKS,
 ROTHERHAM, YORKSHIRE, ENGLAND.
Telegraphic Address—"GUEST, ROTHERHAM."

Manufacturers of every
DESCRIPTION OF FITTINGS FOR WATER & GAS SUPPLY.

Patentees, Sole Licensees, and Original Manufacturers of CHRIMES' Patent High Pressure Single and Double Loose Valve Screw Down Cocks; Bib, Stop, Ball, Lavatory and Bath; Bateman & Moore's Patent Ball Hydrant or Fire Cock; Chrimes' Patent Screw Down Valve Hydrant or Fire Cock; Siemens' Patent Water Meters; GUEST & CHRIMES' Improved Sluice Cocks; GUEST & CHRIMES' Improved Gas Valves; Cathels & Terrace's Patent Four-way Disc Gas Valve; Cathels' Patent District Dry Gas Governor; Goldsmith's Patent Sight Water Line Indicating and Compensating Wet Gas Meter; Eskholme's Patent Pneumatic Regulator and Valve Closet; Bell & Chrimes' Patent Service Box Valve; Lowe's Patent Effluvia Traps; Newton's Patent Street Gully; Pearson's Patent Locking Apparatus for Bath Supply Fittings; Siemens' Patent Regenerative Gas Burners; Cowan's Patent High Power Gas Lamps, &c.

Reservoir Valves. Cloughs or Penstocks. Relief Valves. Reflux Valves. Fire Extinguishing Apparatus, such as Hand or Delivery Pipes; Jets; Jet and Spreader to distribute Water in imitation of Rain; Hose Couplings; Hose, &c. Waste Preventing Single and Double Valve Service Boxes. Improved Self-Acting and Pull Water Closets. Steam Cocks. Wet and Dry Gas Meters. Gas Chandeliers, Brackets and Fittings.

PLUMBERS' & GAS FITTERS' BRASS WORK OF EVERY DESCRIPTION.

Having exhibited at the London Exhibitions of 1851 and 1862, and obtained Prize Medals, we have not exhibited since:—

1851. Class 52A.—WATER CLOSET AND FIRE COCK. 1862. Class B.—FOR WATER METER &c., SIEMENS'
 "Practical success of Water Meters, &c.; Originality of the whole."

1862. Class 31.—FOR WATER WORKS ARTICLES.
 "Progress in Fabrication of useful articles for the distribution of Water in Towns."

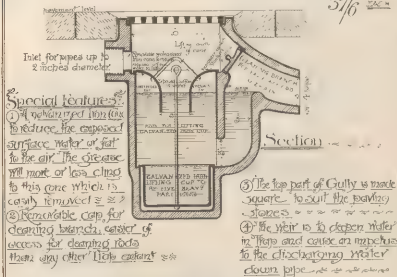
London House—THOMAS BEGGS & SON, 128, Southwark Street, S.E.
Agents at Hamburg—Messrs. ALFRED BARBER & CO.
Agent at Brussels—Mr. EDMOND LAMAL.

J. C. EDWARDS' TERRA COTTA RUABON WORKS

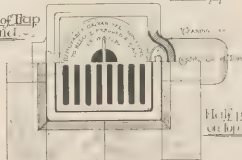
Duffin's "KALLIO" Improved Gully and Fat Trap

Price of GULLY COMPLETE WITH GALVANIZED IRON GRILL,
LIFTING CUP AND ONE ON RAIL HERE

37/6



Half plan of Trap under Grid.

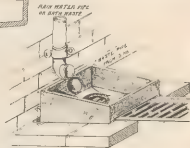
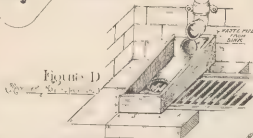
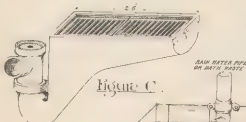
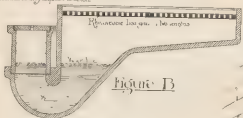


Half plan of Trap under Grid.

See also Gully of Iron

30 Inches

J.C. Edwards: Terra Costa Works: Ruabon:
Glazed Sanitary Stoneware.



Price A Cherry Card and Trip with monochrome
wall and with Ruyter No 1 or No 2 compass
On Raillei 12/6 each

DEAN'S
Patent Channel & Trap
for
Sink & Bath Wastes

December 26

[illegible]

J.C. Edwards & Ruabon

Intercepting Trap

for a Confined Space.

PRICES
 $\frac{7}{16}$ 6 9
 $\frac{6}{16}$ $\frac{9}{16}$ $\frac{15}{16}$ Each



No. 38

Sever Gas Interceptor

PRICES
 $\frac{7}{16}$ 6 9
 $\frac{6}{16}$ $\frac{9}{16}$ $\frac{15}{16}$ 80



No. 39

Interceptor

with INLET
 Open to Air
 and to be used
 for

Surface Drainage

PRICES
 $\frac{4}{16}$ 6 9
 $\frac{6}{16}$ $\frac{9}{16}$ $\frac{15}{16}$ Each



No. 40

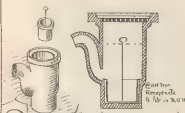
Intercepting Trap

with Inspection Opening

PRICES
 $\frac{4}{16}$ 6 9
 $\frac{6}{16}$ $\frac{9}{16}$ $\frac{15}{16}$ 80



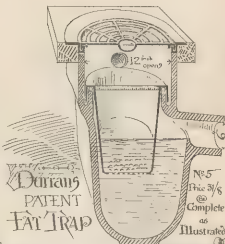
No. 41



Dean's Patent TRAP

Prices including Galvanised Iron
 Receptacle and Grating

Diam 7 8 9 12 15 18
 7- 8- 9- 10- 25- 32- 40-



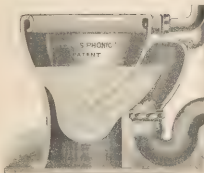
Durans PATENT FAT TRAP

No. 5
 Price 3/8
 @ Complete
 as
 Illustrated

J.C. Edwards Patent Sanitary Stoneware

Terms & Discounts on Application

B. FINCH & Co.,
SANITARY & HYDRAULIC ENGINEERS,
 82, Belvedere Road, Lambeth, London, S.E.



FINCH'S
"SIPHONIC" CLOSET

(PATENT).

WATER RETAINED IN BASIN EQUAL
 TO A VALVE CLOSET.

ASTOUNDING VELOCITY OF DISCHARGE.

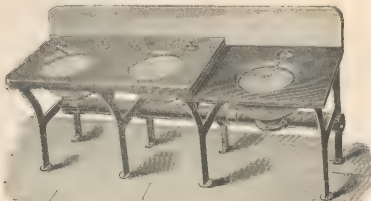
Simple Wash-down Type.

LEAD TRAP.

WRITE FOR ILLUSTRATIONS AND PRICES.

These Closets are in use in some of the most
 important buildings in LONDON & COUNTRY.

LAVATORIES OF EVERY DESCRIPTION IN MARBLE & SLATE.

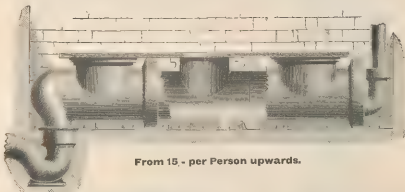


FINCH'S SCHOOL BOARD LAVATORIES,

58/- per Basin, Complete.

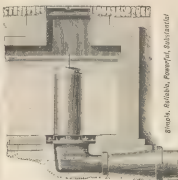
PLEASE WRITE FOR CATALOGUE.

B. FINCH & Co.'s UNIVERSAL TROUGH CLOSET, WITH AUTOMATIC FLUSH TANK.



From 15. - per Person upwards.

FLUSH TANK



FOR URINALS.



20 Gallons	..	..	4	0	0
30	"	..	4	10	0
40	"	..	5	0	0
50	"	..	5	10	0
60	"	..	6	0	0
75	"	..	6	10	0
80	"	..	7	0	0
100	"	..	7	15	0
150	"	..	10	0	0
200	"	..	12	0	0

16 Syphon	..	..	16	5	0
12	..	..	13	0	0
10	..	..	12	0	0
8	..	..	8	0	0
6	..	..	6	0	0
4	..	..	4	0	0

We do not recommend a greater depth of water than 5 ft., on account of the great variation during the discharge, or less than 12 in. Prices of Syphons over 8 ft. on app. call on.

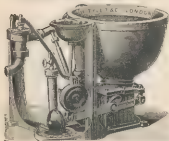
Where very low depths of water are absolutely necessary on account of existing drains, we shall be glad to give the necessary surface area of the Tank, to ensure perfect action.

1 Gallon	..	..	..	..	1	0	0
2	"	..	..	..	1	8	0
3	"	..	..	..	2	0	0
4	"	..	..	..	2	10	0
5	"	..	..	..	2	15	0
6	"	..	..	..	3	0	0
10	"	..	..	..	3	8	0

These are made in
1 8-in. bottoms, and
in 1 16-in. sides.

These can be made in Slate with
Glass Fronts.

82, BELVEDERE ROAD. LAMBETH, S.E.



HAYWARD-TYLER & Co., SANITARY ENGINEERS,

90 & 92, WHITECROSS STREET, LONDON, E.C.

TELEGRAMS, "TYLEROX."

TELEPHONE, 182.

40 PRIZE MEDALS.

WATER CLOSETS, FLUSHING CISTERNS, &c.

HAYWARD TYLER & CO. have for many years given close attention to the Manufacture of the best classes of Water Closets, and their work has long been known for its excellence.

SEND FOR LIST A, 1892.

ELASTIC VALVE CLOSETS.

HAYWARD TYLER & Co. were the first firm to produce these at a price to compete with the objectionable Pan Closets. They make them in various forms, of which the following are the principal.

THE WHITECROSS CLOSET.

Compact, handsome, and of excellent make. The outlet valve can be repaired without detaching the basin. Decorated basin and bottom valve, copper bellows, regulator, and 1 inch valve, 65/-. With 1½ inch valve, 89/.

THE WHITECROSS CLOSET, for use with overhead cistern, 47/6

THE A. B. C. CLOSET.

Adopted in the Retiring Rooms of the London Acrated Bread Company.

Large white basin, with 4 inch outlet, white earthenware bottom valve dish and pull. For use with overhead cistern, 70/-. With brass or copper regulator and 1½ inch valve, 95/.

EXTRA QUALITY CLOSET.

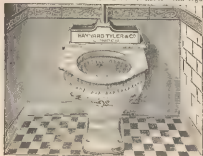
With bright fittings, extra large dish and pull. For overhead cistern. White basin, 89/; decorated basin, 85/; gold lined, 71/.

EXTRA QUALITY CLOSET, as above, with brass or copper regulator, and 1½ inch valve, 92/6. If with 4 inch outlet, extra 5/.

"SPECIAL" QUALITY.

Bright dish, glass handle decorated basin. For use with flushing cistern 35/

SPECIAL QUALITY as above with regulator and 1 inch valve, 50/.



THE "TYLEROX" WASH-DOWN CLOSET.

This is recommended as the best and cleanest Pedestal Closet in the Market. The whole weight and force of the water is used in cleansing the basin.

Blue Dragon pattern, 34/6; Ivy pattern, 37/6.

White, 28/6; Cane & White, 25/.

It is adopted largely for private houses, hospitals, &c., and gives perfect results. It is also made with Seat Action.

Telegrams
"TYLER & CO. LONDON."
Telephone 172

HAYWARD-TYLER & Co.,

40 PRIZE MEDALS.

SANITARY & HYDRAULIC ENGINEERS,

90 & 92, WHITECROSS STREET, LONDON, E.C.

COCKS

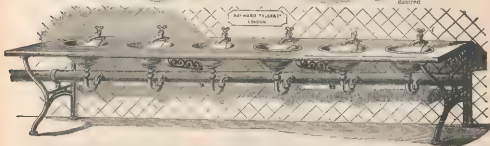
To suit the Requirements of NEW RIVER and OTHER WATER COMPANIES.



Arrangements of Lavatories for Schools, Public Buildings, &c.



HAYWARD TYLER AND Co. have supplied these improved lavatories to various public and private buildings, such as the Central Post Office, Cardiff, the Liverpool University College, &c. They are the most convenient and ornamental arrangement, and suited for any amount of wear. The front may be casd with panelling, if desired.



FITTINGS FOR TURKISH BATHS.

HAYWARD TYLER & Co. have made it a specialty, having fitted up the Larnham Turkish Bath in Jersey Street and many other public and private Baths, under the direction of Mr. W. H. B. and other well-known Architects. In H. T. & Co's List of pages 64-71, will be found some of the various of NEEDLE BATHS, DOUGHERS, DOUGHER COOKS &c. made by them.

HAYWARD TYLER & CO., Hydraulic Engineers, 90 and 92, Whitecross Street, London, E.C.

J. & W. KIRKWOOD, ZINC BATH MANUFACTURERS,

236, Leith Walk, Leith, N.B.

POLISHED PLATE ZINC BATHS, Finest Finish, with Fittings Complete.



No Wood Work required. These Baths are guaranteed to stand fifty years' use. They are easily kept clean and bright. The Plumbing Trade of Edinburgh and the east of Scotland are unanimous in recommending them as the Best Bath in the Market for all purposes. They have been adopted by H. M. Prison Commissioners.

THERE ARE OVER 20,000 IN USE. SEND FOR LIST.

SIZES. (ALL INSIDE MEASURE.)					
3' 0" x 2' x 1' 10" deep	..	..	..	..	£8 15 0
5' 0" x 2' x 1' 10" "	..	..	..	..	9 0 0
6' x 2' x 1' 10" deep	..	..	..	..	9 5 0
Subject.					

J. & J. MATTHEWS, ENGINEERS, IRON AND BRASS FOUNDERS,

BYRON STREET, CALDEWEGATE, GARLISLE,
MANUFACTURERS OF STENCH TRAPPED GULLIES,



Double Trapped Gully
with Side Outlet.

which are widely known and specified by most leading Architects and Surveyors for Street Drains from the sewer, and as certain a protection for keeping all solids from the drain.

The sizes, 10" x 7" and 8" diameter are entirely supplanting the old-fashioned earthenware Trap. The thousands of them that are now in use is a proof of their superiority, while the prices are not higher than earthenware.



Double Trapped Gully
with End Outlet.

MANHOLE COVERS, AND OTHER SANITARY CASTINGS.

Price Lists on Application.

McDOWALL, STEVEN & Co., LTD.,

(LATE STEVEN BROS. & CO.,
Telephone No. 1250. "STEVEN BROS.", LONDON.)

ARCHITECTURAL AND SANITARY IRONFOUNDERS.

No. 14.—ROMAN BATH.

With New Registered Fittings and Earthenware Soap Trays inside, and with Overflow and Waste Pipes separate from Bath, with Round Roll on brim. No woodwork required.



Sh. Gros. Inside.

Japanned	£5 5 0
3rd Enamelled	6 15 0
2nd Enamelled	6 12 6
1st Enamelled	7 12 6
Superior Finish Enamelled ..	8 5 0

The above prices include Brass Fittings and China Knobs, as drawn.

Electro-plated Fittings 10/- extra.
Enamelled Siena Marble, Cream,
Sea Green, or other Colours.

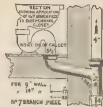
STEVEN BROS. PATENT BATHS.

Complete with Fittings and Soap Tray
INSIDE.

NOTE.—Our Superior Finish Siena Marble or White Enamelled Baths are got up in a very artistic manner, and our process of Enamelling is of such a nature, that the Enamel expands and contracts with the iron.



Circular Urinal



Special Connections for Closets
AND ALL KINDS OF
SANITARY APPLIANCES.



SOIL PIPE—Medium, Heavy, and
LONDON COUNTY COUNCIL
REGULATION WEIGHTS.

All sizes with or without ears, Plain or
Coated, kept in stock.

McDOWALL, STEVEN & Co. LTD., (Late Steven Bros. & Co.) 4, UPPER THAMES STREET, LONDON, E.C.

THE LAMBETH BRASS & IRON CO., LTD.,

HYDRAULIC & GAS ENGINEERS,

Manufacturers of GUN METAL STEAM FITTINGS,
PLUMBERS' BRASS WORK, SLUICE VALVES, FIRE HYDRANTS, HIGH
PRESSURE STEAM & WATER VALVES, GAS FITTINGS, &c.,
Also of WROUGHT IRON WELDED TUBES AND FITTINGS FOR STEAM,
GAS, AND WATER.

SHORT STREET, LAMBETH, LONDON, S.E.,

AND THE
ALPHA TUBE WORKS, WALSALL, STAFFORDSHIRE.

Telegraphic Address: "DIAPHRAGM, LONDON."



No. 22.—Stemming
Box Bib Valve.



Equilibrium Ball Valve.



No. 25B.—
Lever Action Waste
Preventer Urinal
Valve.



No. 4.—Diaphragm
Bib Valve.

No. 4.—Diaphragm Stop Valve.



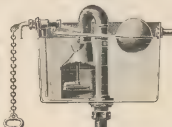
Brass Fire Valve.



No. 7 H.—
Galvanized Iron Head
Valve.



No. 400.—
Deep Well Pump, with Access
Chambers, and Gun Metal Barrel.



No. 125.—
Improved Waste Preventer "Valveless" Cistern, with
Brass Cylinder and Syphon.



No. 155.—
Patent (Under-the-Seat) Waste
Preventer Cistern Valve.



No. 10.—
Garden Hydrant.



No. 17.—
Self-Closing Bib Valve.



No. 20.—Gun Metal "Quarter-
turn" Boiler Valve.



No. 21.—Gun Metal Boiler
Valve, with Buffalo Horn
Handle.



No. 200.—Gun Metal Steam
Valve, with Removable
Asbestos Seating, and
with Vulcanite Wheel.



No. 01.—
Equilibrium Ball Valve, Glasgow Pattern.



Gun Metal Boiler Feed Valve,
for Steam Cooking Apparatus.



Street Hydrant.



Galvanized Iron
Butt and Bib Cock.

ILLUSTRATED CATALOGUES ON APPLICATION.

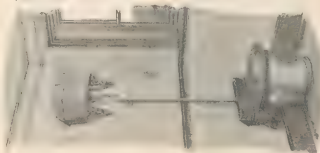
JENNINGS' PATENT
"CLOSET OF THE CENTURY"
with Synchronic Discharge



Combining the simplicity
of the Ordinary Flush
Down Grate Drain and
Trap with the advantages
of a Valve Closet

Supplied in strong
Fibrelay from £5 7 6
or in Enamelled Iron
white or decorated
enamelware according
to detail - with quick
filling system of simple
construction or "Pat-
ent" percussive regenerating
supply Valve, Seat down
service pipe and Trap
complete

JENNINGS' PATENT
"DEEP SEAL"
Flush Down Closet
with 2½" Seal



Supplied in strong
Fibrelay from £4 7 6
or white or decorated
enamelware accord-
ing to detail, with
flushing system, seat
down service pipe &
Trap complete

It is adopted by the
London & Provincial
Water Board even

GEORGE JENNINGS' SANITARY ENGINEER LONDON & E.

JENNINGS' IMPROVED
"MIDLAND"
Wash down W.C.
Alphington

In strong white
glazed fireclay with
hinged seat, syphon
flushing system, down
service pipe, complete
from £4.15.0

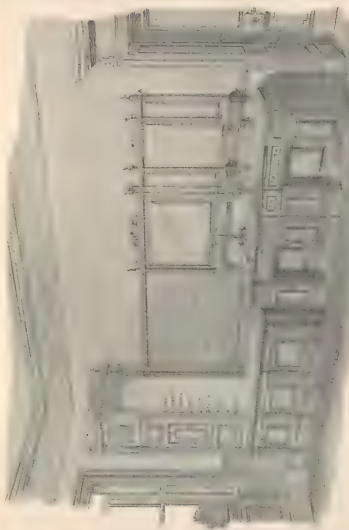
JENNINGS' "ERA" VALVE W.C.

With improved
grooved brass
regulating supply
valve from £4.4.0
Special white earth
enamel, slop holes
for above £1.5.0

JENNINGS' NEW COMBINA-
TION CLOSET & URINAL
(Patented)

Parties w. readily
recognise numerous
positions for which this
apparatus is peculiarly
suited. Complete with
seat, flushing system, etc.
from £5.7.6

GEORGE JENNINGS, SANITARY ENGINEER, LONDON · S.E.



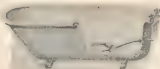
Jennings Bath Room Suite, etc.
Complete with Storey Bath, Lavatory & Dressing Table.
Estimates furnished in accordance with details of material and construction.

GEORGE JENNINGS | SANITARY ENGINEER | LONDON-SE.

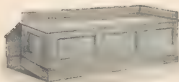


JENNINGS COMBINED PLUNGE and SPRAY BATH

Supplied with Cast Iron Plunge
Bath, Zinc Lined, enamelled
inside approved color, with
Walnut or Mahogany wood-
work & brass mounted valves
as shown from £35.0.0.



Roman Pattern Bath in
enamelled cast iron with
non-removable plug & washer
hot & cold combined supply
from £8.18.6 If fitted with
hand spray as shown 15/6 extra



Strong Copper Bath, with
enclosure, "pull up" hot, cold
& waste valves, complete
from £21.0.0.

GEORGE JENNINGS | SANITARY ENGINEER | LONDON & E.

JENNINGS' PATENT LAVATORIES

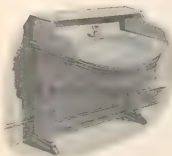
with latest improved Tip up & Lift out Basins



Prices on Application



CIRCULAR FRONTED LAVATORY



with improved Patent Tip up
& Lift out Basin, Marble top
skirting & shelf, Plated cold
Supply tap, polished mahogany
Stand. Price from £14.14.0



If fitted with Patent
Shampooing Apparatus, the
additional cost would be from 35/-



GEORGE JENNINGS' SANITARY ENGINEER LONDON · S.E.

JENNINGS' "CABINET" LAVATORY

Then with Improved
'Revolving' basin, quick
to use, in view of col-
our & finish of

Prices from £16.00
according to detail
& quality selected



Handwritten signature or initials.

JENNINGS' "1890" Patent Improved CABINET LAVATORY

Rocking-top
or Angular

Supplied in white
enamelware from £3.12.6
or in decorated ware
Prices on application

Complete as shown
with Flange or
without one as desired
Tiled Skirting etc.
Price from £20.00



Handwritten signature or initials.

GEORGE JENNINGS' SANITARY ENGINEER' LONDON S.E.

JENNINGS' "CLUB PATTERN" URINALS

Complete as shown (Fig 1)

12 plain slate £9.0.0 per pair

12 enamelled slate £10.15.0

12 colored Marble £12.15.0

Flushing cistern extra according to size & quality.

JENNINGS' "RADIAL" URINALS

(Figs 2 & 3)

With white glazed back in plain or enamelled slate or in colored Marble, complete with flushing cistern, also supplied all in white or brown glazed porcelain.

Prices according to selection.

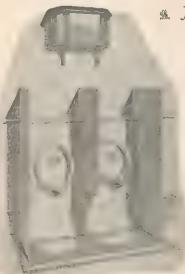


Fig 1

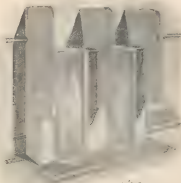


Fig 2

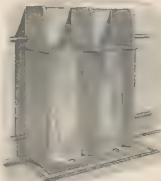
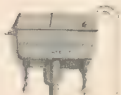


Fig 3

GEORGE JENNINGS | SANITARY ENGINEER | LONDON S.E.



JENNINGS IMPROVED PATTERN
DRAW OFF & SLOP SINK

In white glazed fireclay
with painted flanging system
plain slate drainers, capping
etc. for 50 recess, hot & cold
cocks, flexible tube etc as
shewn Price £8.12.6.



Enamelled slate capping and
galvanized system £25.0 extra



JENNINGS IMPROVED
"RENIFORM" LAVATORY.

In strong white glazed
porcelain - suitable for
 Asylums, Hospitals etc. and
generally to withstand rough
usage from £4.10.0

JOHNSON BROTHERS,

TRENT POTTERY, HANLEY, ENGLAND.

New York Office:
15, WARREN STREET.

Telegraphic Address:
"STAR, HANLEY."

London Office:
15, BARTLETT'S BUILDINGS.

SOLE MANUFACTURERS OF THE UNEQUALLED (REGISTERED)

New Royal Semi-Porcelain Sanitary Earthenware, and New Enamelled Cane Ware.
NEW REGISTERED LAVATORIES, WITH D SHAPED
BOWL, AND IMPROVED SOAP TRAYS.

REGISTERED "PERFECT" COMBINED
LAVATORIES, WITH TAPS & IMPROVED
STANDING WASTE AND OVERFLOW.



No. 83. OBLONG, WITH BACK & SIDES.

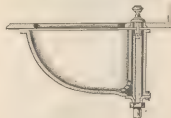
6 Sizes.
15" x 18" 22" x 18" 35" x 18"
20" x 18" 25" x 18" 27" x 18"



No. 121. 3 Sizes.
22" x 18" 27" x 20" 30" x 22"



No. 108. OVAL LAVATORY, WITH
STANDING WASTE



SECTION OF WASTE AND COMBINED OVERFLOW,
AS ON NOS. 121 AND 108 LAVATORIES. TWO SIZES.
18 1/2" x 15 1/2" 16" x 13 1/2"

The first consideration in connection with Sanitary Goods is the quality. None but the best should be used, and the fact that we have, at the present time, Five Large Factories entirely devoted to the Manufacturing of the Finest Earthenware, proves that the public have wakened up to realize this fact.



No. 87. ANGULAR, WITH BACK & SIDES. 2 Sizes.

27" x 27" 30" x 28"

Johnson Brothers, Trent Pottery, Hanley, England.

JOHNSON BROTHERS,

TRENT POTTERY, HANLEY, ENGLAND.

New York Office:
15, WARREN STREET.

Telegraphic Address:
"STAR, HANLEY."

London Office:
15, BARTLETT'S BUILDINGS.

New Registered Royal Semi-Porcelain Sanitary Earthenware.
LATEST DEVELOPMENTS IN SANITARY SCIENCE.

PATENT No. 8,110.

No. 360. LATESTAS, EMBOSSED
AND SIDES. C. C. PATTERN.



REGISTERED
TRADE MARK.



184-943.

Photos of the Patent Latestas Closet
free upon application.

The Loose Sides allow of the inspection
of Trap with a minimum of trouble,
and without in any way disturbing the
Joint or injuring the Closet

No. 351. PURITAS WASH-DOWN
CLOSET, CENTRE S TRAP.



These Closets are
also made
County Council
Pattern.

No. 363a. ENDURAS CLOSET, WITH P
TRAP, AND PATENT METAL WIPED
JOINT, C. C. PATTERN.



This Patent Joint has come to stay! Notwithstanding
the fact that it is absolutely the best yet produced, it
is only about half the price of any other.

No. 372. EMBOSSED INVICTAS CLOSET,
CENTRE S TRAP.

REGISTERED No. 185,248.



The above Closets, with the "Encas," "Household," "Swift," &c., ARE MADE IN EVERY VARIETY
OF TRAP, to meet the requirements of County Councils, and other Authorities, and can be supplied in
White or Ivory Ware, Printed and Natural Colour Decorations under the Glaze, or in New Enamelled
Case and White Sanitary Earthenware.

CATALOGUES & MINIATURES SHOWING QUALITY & DECORATIONS FURNISHED FREE UPON RECEIPT OF APPROVED TRADE CARD.

Johnson Brothers, Trent Pottery, Hanley, England.

JOHNSON BROTHERS,

TRENT POTTERY, HANLEY, ENGLAND.

New York Office:
15, WARREN STREET.

Telegraphic Address:
"STAR, HANLEY."

London Office:
15, BARTLETT'S BUILDINGS.

SOLE MANUFACTURERS OF THE UNEQUALLED (REGISTERED)
NEW ROYAL SEMI-PORCELAIN SANITARY EARTHENWARE
And NEW ENAMELLED CANE WARE.

SPECIALITIES.

No. 322. PATENT PAN & SYPHONIC TRAP.
PATENT No. 8382.



This combination consists of a Specially Constructed Trap, which acts in a marvellous manner by means of a syphonic action set up when the flushing takes place, by which the basin and trap are thoroughly cleansed, and the drain also effectually flushed.

No. 381. PATENT PERFECTLY ODORLESS
VENTILATED CLOSET.
WASH-OUT CLOSET PATENTED MAY 16th, 1893.



This Closet is perfectly odorless, having the basin ventilated as well as the trap. When fixed in position, the basin ventilator draws off all foul air from the room, and keeps it sweet and pure even when the Closet is being used. It is more especially suitable for ladies. It is supplied in a variety of designs, and there is an enormous demand for it.

Don't overlook our Patent Joint for Connecting Outlet of Closet to Soil Pipe.

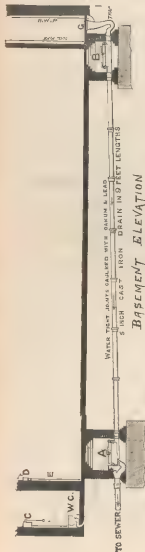
The essential requisites of Sanitary Earthenware are its durability, anti-porosity, and resistance to chemical action, and the numerous tests made by the leading Sanitary Scientists, both here and abroad, prove the superiority of our ware in these respects, so much so that in addition to the ware being in enormous demand all over the world, it has been in numerous shapes extensively adapted by the most important chemical manufacturers, and now takes the place of both glass and platinum, being far more durable, and possessing advantages not possible in glass and other similar articles, besides being considerably less in cost.

ALSO MANUFACTURERS OF EVERY VARIETY OF
CLOSETS, LAVATORIES, BASINS, FOUNTAINS, URINALS, CLOSET PANS,
BIDETS, PEDESTAL & ORDINARY (With or Without Fittings).
IN FACT, SANITARY ARTICLES OF EVERY DESCRIPTION TO MEET
THE REQUIREMENTS OF BOTH HOME & FOREIGN MARKETS.

Catalogues & Miniatures showing quality & Decorations Furnished Free upon receipt of approved Trade Card.

Johnson Brothers, Trent Pottery, Hanley, England.

THE NORTH BRITISH PLUMBING CO., LIMITED.



REGISTERED TRADE MARK—
"DUCTILITY, LONDON."
#

THE SCOTT-MONCRIEFF SYSTEM OF CAST-IRON DOMESTIC DRAINAGE.

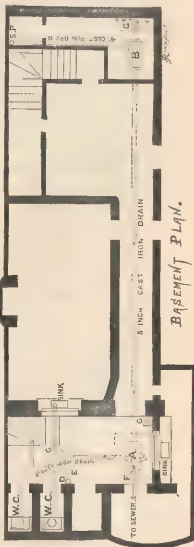
#

A & B Cast-iron pipes, 5 inches diameter, lead and cast-iron inspection chambers and gauged level-headed covers.
C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

FOR DETAILS SEE CATALOGUE FREE ON APPLICATION.

PLAN OF BASEMENT

Showing the System as applied to an ordinary London House.
Lead soil pipe, joined to iron pipe by brass caulking Sleeve Piece.



THE NORTH BRITISH PLUMBING Co., LIMITED,

86, NEWMAN STREET, OXFORD ST., W.

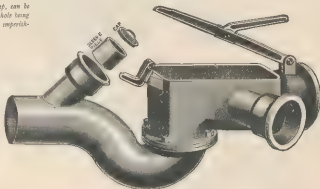
PATENTEES AND SOLE MANUFACTURERS OF THE

SCOTT-MONCRIEFF SYSTEM OF CAST IRON DOMESTIC DRAINAGE.

Patent Gas-tight Cast Iron Intercepting Chamber.

This Apparatus, with or without trap, can be made with any number of branches; the whole being rendered gas-tight by a cast iron cover, with imperishable joint and ram-action lever.

These Cast Iron Inspection Chambers have been adopted by H. M. Office of Works, the Post Office, &c., and supplied to Kensington and St. James's Palaces, the Royal Courts of Justice, the Police Courts, Principal Clubs of London, and other Public Buildings, also to Private Mansions and Houses in Town and Country.



Patent Cast Iron Inspection Chamber.

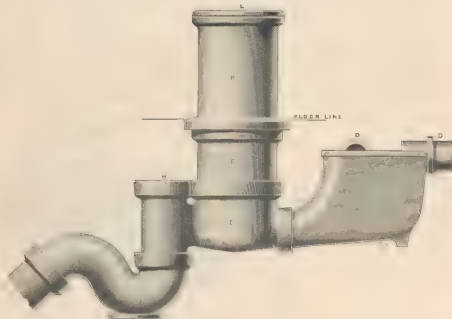
Four Branch Inlets (two on each side) or fewer can be attached to this pattern as required. This form of chamber is suited to every description of drainage.



PRICE FROM £3.

OATES & GREEN, Limited, HALIFAX.

PATENT "SKROY" WASTE WATER CLOSET.



Description.

The whole apparatus, with the exception of the gun metal bearings and the Buffer, is made from our Highly Glazed "Nalethric" Stoneware.

A. Tipper Box with Metal Bearings and Buffer C. B. Three Gallon Tipper. E². Basin with Disbed Bottom, and Combined Access Pipe H. F. Two Rising Pans, one to in. long, and one 21 in. long. G. Special Syphon Trap.

Points.

Solid flush of extraordinary power. Every part accessible. Occupies little room.

Prices on Rails at Halifax.

Complete Closet, including parts lettered A B C E F and G, £1 10s. Full Particulars on application.

Weight per Closet.

A B C E F and G complete, about 3½ cwt.

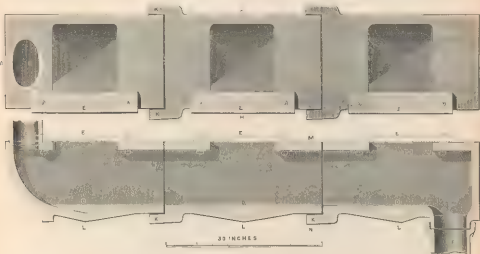
Note.

Each Closet is tested before leaving the Works and is guaranteed in efficient working order.

Catalogue.

Complete Catalogue, with Drawings and Particulars of other arrangements, may be had on application.

OATES & GREEN, Limited, HALIFAX. PATENT AUTOMATIC BOX LATRINE.



PATENT AUTOMATIC BOX LATRINE.

DESCRIPTION.

Made from highly-glazed Nalethric Stoneware, in lengths as required. It combines perfect flush with great cleanliness, and is not thrown out of work if not set absolutely level, as the basins are independent of each other.

A. Inlet Piece. B. Outlet Piece. C. Inlet for Flush from Tank or Tipper. D. Basin for water in each Trough. E. Wood Seat painted and varnished. F. Outlet to Trap. G. H. Middle or Lengthening Pieces.

POINTS.

Cheaply fixed, being self-contained. Cheaply worked, only small flush required. Every part accessible for cleaning. **Not** necessary to fix dead level.

PRICES, FREE ON RAILS, HALIFAX.

For 2 Seats	... £1 10 0	For 5 Seats	... £3 15 0	For 8 Seats	... £6 0 0
" 3 "	... £2 5 0	" 6 "	... £4 10 0	" 9 "	... £6 15 0
" 4 "	... £3 0 0	" 7 "	... £5 5 0	" 10 "	... £7 10 0

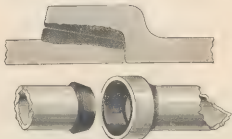
Complete Catalogue of Waste Water Closets and Latrines, giving full particulars and prices of various arrangements, may be had on application.

OATES & GREEN, LTD., HALIFAX.

Stanford's

Patent

Joint.



We have effected considerable improvements in Stanford Jointed Pipes in the direction of increased hardness and greater smoothness in the surface of the composition, by this means producing a truer joint and greatly reducing the risk of damage in transit.

The following are some of the advantages we claim for our Improved Joint:—

The Joint, being accurately cast from steel dies, when fixed becomes absolutely gas and water-tight.
It can be laid under water.
It is not affected by a settlement of the ground.
It is fitted to selected earthenware pipes or to our special NALETHRIC stoneware pipes as required.

NOTE.—For preventing escape of sewer gas, this joint is applied to other goods, that is, to stoppers for channel syphons, to discs for pipes and junction blocks, to lids for grease traps, &c., &c.

PRICES.—33½ per cent. extra on cost of Pipes.

"NALETHRIC" STONEWARE PIPES.

The increasing demand for the highest excellence in sanitary matters has led us to experiment in the direction of increased vitrification, without loss of glaze: guided by chemical analysis we have discovered a mixture of clays which produces a **highly vitrified body with a perfectly smooth glaze**, a result which we believe has never been attained before. Most of the clays for producing these pipes being found upon our property, these special "NALETHRIC" pipes can be supplied at a small extra cost over ordinary pipes.

During the visit of the Association of Municipal Engineers to our works, last June, several 12-inch "NALETHRIC" stoneware pipes were tested to a pressure of **185 lbs.** on the square inch (the amount of pressure obtainable with our machine) without causing flaw or fracture, and without showing the slightest tendency to sweat. This result needs no comment.

Architects and Surveyors who are desirous of obtaining absolutely the best possible sanitary tube, will be cheerfully supplied with samples for comparison and test.

Prices 33½ per cent. over ordinary quality pipes.

"NALETHRIC" TESTED PIPES.

In order to comply with specifications which require drains to be tested under a head of water, we have put down a hydraulic plant for testing each pipe, and can supply them in large or small quantities at short notice. Each of these specially tested pipes is marked:—

"NALETHRIC,"
TESTED,
HALIFAX.

The price of these specially selected and tested "Nalethric" pipes is as follows:

4 in.	6 in.	9 in.	12 in.	15 in.	18 in. diameter.
1/6	2/3	3/6	5/6	9/-	12/- per yard.

We can supply all sizes of pipes either in 3 ft. or in 3 ft. 6 in. lengths.

SHANKS & CO.
TUBAL WORKS.

BARRHEAD,
near GLASGOW.

Patentees & Manufacturers of
BATHS, LAVATORIES, WATER CLOSETS,
* URINALS, SINKS, *

Sanitary Appliances & Fittings
of every description

SHANKS' PATENT "MODERN" LAVATORIES AND IRON STANDS.



Shanks' Patent No. 351 "Modern" Lavatory,
in Fine Earthenware, with Hot, Cold, and Waste Fittings, Cast-
iron Japanned Frame and Brackets, and Cast Iron Tile Back
Japanned to match, Best Finish, £5 19 0

Sanitary Progress
in
Baths, Lavatories,
and
Water Closets.

Patent
Open Waste.

Absence of
Fouling
Surface,

Large
Discharge
Valve.

Rapidly
Emptied.



Shanks' Patent No. 351 "Modern" Lavatory,
in Fine Earthenware, with Hot, Cold, and Waste Fittings, Cast-
iron Japanned Frame and Brackets, and Cast Iron Mirror Back
Japanned to match, £7 14 0

RANGE OF SHANKS' PATENT "MODERN" LAVATORIES.



Shanks' Patent "Modern" Lavatories, with Hot, Cold, and Waste Fittings, Polished Italian
Marble Slab and Skirting, Cast-iron Japanned Frame and Brackets, and Polished Brass Trap and Down Pipe

Price per Basin, for Range of two and upwards, £7 8 6

SHANKS & CO., TUBAL WORKS, BARRHEAD, near GLASGOW.**SHANKS' NEW PATENT (1892) "MODERN" CAST-IRON BATHS.****No. 152.—"FIN DE SIECLE" BATH**Absence
of Fouling
Surface.Large Overflow
Flushed with
clean water.Broad Rolled
Edge.Best Enamel
and Artistic
Finish.

Quickly Filled.

Quickly
Emptied.Large
Waste Valve.Perfect Full-
Way Traps.Splendid Drain
Flusher.Large Supply
Taps.

No. 152.—"Fin de Siecle" Cast-iron Taper-Sided Bath, with Broad Rolled Edge, Superior Decoration and Finish Outside, Large Supply Cocks, Full-Way Trap Glass Enamelled Inside, 24" diameter, Brass Fittings Nickel Plated, and all finished in best style, complete, ...

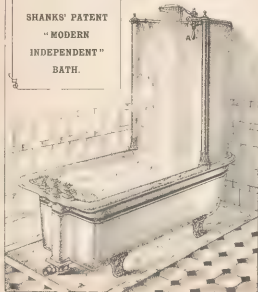
STYLE OF INSIDE FINISH
 of Quality Metallic Enamelled. Porcelain Enamelled.

£8 12 6

£10 10 0

If above Parallel-Sided, 10" extra.

**SHANKS' PATENT
 "MODERN
 INDEPENDENT"
 BATH.**



No. 154.—This is designed to provide an Independent Bath, with Spray and Shower, at moderate price. Instead of Perforated Tubes at close intervals of space the entire height of the Screen, a single Brass Tube, perforated in three rows, is fixed at top of Screen, giving a very satisfactory Bath. The ends of this Tube are bent round in front to direct jets on front of person bathing. The Shower is also tubular in construction, and is controlled by means of valve A. The Waste is on the Patent "Modern" Principle, and the Supply Fittings are the well-known Patent "Eureka" Fittings.

Price, complete, Metallic Enamelled Inside
 and Decorated Outside, £18 0 0

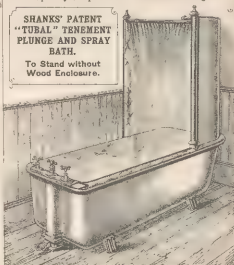
Also supplied without the Shower, No. 155, 15 10 0

SHANKS & CO., TUBAL WORKS, BARRHEAD, near GLASGOW.

A Specially Cheap Bath for Tenements or Cottages.

SHANKS' PATENT
"TUBAL" TENEMENT
PLUNGE AND SPRAY
BATH.

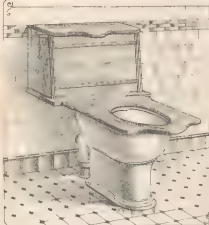
To Stand without
Wood Enclosure.



No. 171T.—Cast-iron Plunge Bath, with Rolled Edge at Front and both Ends, and Flanged at Back to fit close against wall, with Patent Quick Discharge Recessed Waste, Glass Enamelled Trap, and Overflow cast on, with Soap Dish complete, Plate Zinc Spray, on "Modern Independent" Principle, with "Eureka" Fittings for Hot and Cold to Plunge and Spray, with Wastepipe and Gearing, Japanned Sierra Marble Inside, and Plain Finished Outside, ... £9 0 0

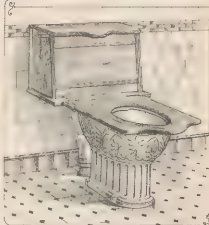
No. 172T.—Cast-iron Tenement Bath, with Rolled Edge and Flanged, as described above, with 2" Hot and Cold Screw-down Taps, with Quick Discharge Recessed Waste, Glass Enamelled Trap and Overflow cast on, with Soap Dish complete, Japanned Inside, and Plain Finished Outside, ... £3 10 0

SHANKS' PATENT COMBINATION CLOSETS.



No. 10.—"Combination" Wash-down Closet,

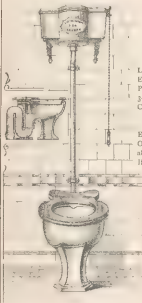
in strong Enamelled Fireclay, White inside and outside, with Single Valve Cast-iron Cistern, Mahogany or Walnut Polished Casing, and Hinged Seat, ... Price £5 0 0
If with Glass-Enamelled Cistern, ... 5 4 0
Extra for Shanks' New Porcelain Soldered Joint, ... 8 0



No. 10A.—"Combination" Wash-down Closet,

White inside and outside, with Raised Ornament, Single Valve Cast-iron Cistern, Mahogany Casing and Seat, ... Price £5 3 6
If with Glass-Enamelled Cistern, ... 5 7 0
Extra for Shanks' New Porcelain Soldered Joint, ... 8 0

SHANKS & CO., TUBAL WORKS, BARRHEAD, near GLASGOW.

SHANKS' PATENT
"BARRHEAD"
SYPHONIC CLOSET.

No. 1. In Fine Earthenware, with Lead Trap, Patent "Perfecto" Seat Extension, Polished Mahogany Seat, Polished Brass Down-Pipe, and 3-gallon Glass-Enamelled "Levern" Cistern, ... £5 15 0

No. 2.—In Strong Fireclay, White Enamelled Inside, and Buff Glazed Outside, with Fittings exactly as above, ... £5 0 0
If No. 2 White Enamelled Outside, ... £5 5 6

Large Surface
of Water.

Great Depth
of Seal.

Perfect
Flushing.

Rapid
Discharge.

SHANKS' PATENT
"LEVERN" SYPHONIC CLOSET.

Made in Finest Earthenware, with 3-gallon Wood Copper-Lined "Levern" Syphon Cistern, Cast-iron Bronzed Brackets, Polished Brass Down-Pipe, and Hinged Mahogany Seat, £7 10 0

SHANKS' PATENT
"LANCASTER" SELF-ACTING ASYLUM CLOSET.

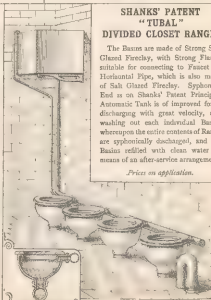
Approved by Highest
Authorities for Asylums.

Made in specially Strong Fireclay for Asylums, White Enamelled Inside, and Buff Glazed Outside, with Cast-iron Syphon Cistern, Glass Enamelled Inside, with Teak-Wood Seat, and Self-acting arrangement. Cistern and Fittings encased in Galvanized Sheet-iron, ... £6 8 6

SHANKS' PATENT
"TUBAL"
DIVIDED CLOSET RANGE.

The Basins are made of Strong Salt Glazed Fireclay, with Strong Flange suitable for connecting to Finest on Horizontal Pipe, which is also made of Salt Glazed Fireclay. Syphon at End as on Shanks' Patent Principle. Automatic Tank is of improved form, discharging with great velocity, and washing out each individual Basin; whereupon the entire contents of Range are syphonically discharged, and the Basins refilled with clean water by means of an after-service arrangement.

Prices on application.



CHARLES W. OUTRAM & CO., EXCELSIOR
WOODVILLE, NEAR BURTON-ON-TRENT,

Manufacturers of WASH DOWN & WASH OUT PEDESTAL CLOSETS (Plain Embossed & Decorated);
also HOPPERS & COTTAGE BASINS AND TRAPS, CABINET STANDS, URINALS, PLUG BASINS, AND ALL KINDS OF
SANITARY EARTHENWARE IN CANE & WHITE IVORY OR PRINTED COLOURS.

ALL GOODS OF SUPERIOR QUALITY AND FINISH.

NEW WASHDOWN PEDESTAL CLOSET, "THE IDEAL"

in Cane or White or Ivory or Plain or Embossed or Printed Colours



PRICES—
Cane and White, 8 in.
" 12 in. 10/6
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TRAP—
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LORD KELVIN'S (SIR WILLIAM THOMSON'S) PATENT INDESTRUCTIBLE WATER TAPS.

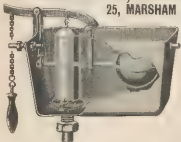
THESE Taps have been opened and closed under water pressure for the equivalent of more than 30 years (30 times a day) without any deterioration. The ordinary rubber, fibre, or leather washer valve, and the packing or washer round the spigot, are entirely dispensed with. Perfect water tightness is nevertheless attained.

By the invention of this Water Tap, LORD KELVIN, D.C.L., LL.D., the author of many other useful inventions, has effected what previous inventors have unsuccessfully attempted. By an ingenious device the valve and its seat retain their lustrous condition for an indefinite period. The Taps are made of the best metal throughout, and are equally suitable for boiling and cold water, are tested to 400 lbs. per square inch, and are sold at a lower price than equal qualities of ordinary forms by all Plumbers and Ironmongers, and by the

PALATINE ENGINEERING COMPANY, LTD.,
10 BLACKSTOCK STREET, LIVERPOOL. Sole Licensees.

Descriptive Pamphlets and Prices on application.

A. ROBINSON, MANUFACTURING SANITARY ENGINEER, 25, MARSHAM STREET, WESTMINSTER, S.W.



Valve Closes, Wash-Down W.C.'s, Water Waste Preventers, Automatic Flushing Cisterns, Mica Flap Air Inlets, Iron Manhole Covers and Frames, Stop Iron for Manholes, Intercepting Sewer Traps, and every description of Plumber's Brass Work, Pumps, Steam Cocks, Bath Fittings, and Patent High Pressure Valves.

AS USED IN THE LONDON & OTHER BOARD SCHOOLS.

A. ROBINSON has repeatedly introduced in the service of Architects, Builders, and others interested in the sanitary arrangements of Buildings, his

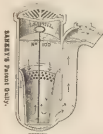
IMPROVED SYPHON WATER-WASTE PREVENTER.

The advantages of this Syphon Water Waste Preventer are simplicity & certain action.

The Action as follows:—By pulling the lever the syphon is raised, the water flows through a stop valve, connected with discharge pipe, automatically the lever is released, the water continues to run through the syphon till the cistern is empty, leaving an efficient flush each time, whereby the water is held in out.

SANKEY'S PATENT DEEP INTERCEPTING GULLY

Effectually Prevents Drains Blocking and Sewer Gas Escaping.



Square Stoneware Kurb.

Special Channel



Iron Grating and Frame.



Improved Channel and Kurb.

DIMENSIONS.

Block Size	Approx Size Across Grid	Depth	Outlet
6in. dia. inside	8in.	1ft. 6in.	4in.
6in.	11in.	2ft.	4in.
12in. "	14 1/2in.	2ft. 6in.	6in.
18in. "	21in.	3ft.	6in.

Other sizes to order.
Inlets charged 1's each extra.
The Stoneware Kurb and Iron Frames have a collar which fits closely into Gully, preventing back drip.

N.B.—See that all these goods are marked "Sankey's Patent Intercepting Gully."

The most simple, complete, and efficacious grease, mud, and gas interceptor in the market.

Prints extracts and Testimonials on application.

Superior Stoneware, Pipes, Junctions, Traps, etc. (London & Country make), also Channels, Gullies, Interceptors, Glazed Bricks, and Iron Covers for Manholes. See also Section A for Nicks, Tiles, Slates, etc., of all kinds.

Particulars of J. H. SANKEY & SON, Canning Town, E., and at North Woodwick & East Ham.

Also SANKEY & CO., Creek Wharf, Hammersmith, and Kensington, W.

ESTABLISHED 1857.

CONTRACTORS TO H. M. GOVERNMENT

Please Write for Illustrated Catalogue

GEORGE SKEY & CO LIMITED

AUTOMATIC TROUGH CLOSETS.—In Salt or Buff Enamelled Glaze.

Telegrams:
SKEY,
TAMWORTH.

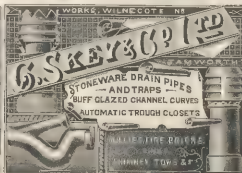


Telegrams:
SKEY,
LONDON.

Prices: 12" bore, 15" vent, Salt Glaze, 5 6; Buff Glaze, 6 6 per foot run. The measurement is taken from extreme end to extreme end.



THE "TORRENT" WASHDOWN.



THE "SWAN" WASHDOWN.



Prices, 15 note 27/6. Cane 22/6



Prices, 4" 10, 6" 12, 8" 13, 9" 13/-



Prices, 4" 10/-, 6" 12/-, 8" 13/-, 9" 13/-



Price, White or Ivory 20/-

REVERSIBLE GULLY TRAP.



Prices:
Receiver, with
cover, 4/-
Trap for do.,
4/- inlet and
outlet, 4/-
Extra inlet,
1/- each.
Extra iron
grates,
6d each nett

STRAIGHT CHANNEL PIPE.
Showing the different Bends.



Prices:
A, B, C, D, E, F, G, H, 4" 1/2, 6" 2/6 each.

PRICE:
Large,
30/- each
complete,
with screw
galvanized
iron bucket
(with handle)
and grate.
Small,
17/6 each
complete.

TREWS GREASE RETAINER.



Large size, Square, 12 1/2" Grate.
Small size, Round, 9" Grate.

WILNECOTE WORKS NEAR TAMWORTH.
LONDON DEPOT MIDLAND GOODS STATION ST. PANCRAS, N.W.

SHARPE BROS. & Co., LTD.,

Telegraphic Address—
"SHARPE, SWADLINCOTE"

PATENTEES & MANUFACTURERS OF

London Office,
78 FINSBURY PARKWAY, E.C.

Closet Basins, Traps, Cabinet Tops, Urinals, Plug Basins, Commode Pans, &c.

OF EVERY DESCRIPTION IN WHITE, PRINTED, & CANE COLOUR.

SWADLINCOTE POTTERIES, Near Burton-on-Trent.



Section of Central Outlet



Section of P Trap

THE SOLIDAS.

This is a Wash-down Closet of approved type, having large water surface, vertical back, and deep sea, and can be had with central outlet, P Trap, or outside S Trap.

PRICES.

Cane and White	...	24/-	White or Ivory	...	28/-
Cane and Printed	...	28/-	White and Printed in or out	...	32/-
		White and Printed in and out	...	34/-	



SECTION.

THE "CEDRIC"

TRADE MARK
PRICES.

Cane and White	...	21/-	White or Ivory	...	25/-
Cane and Printed	...	25/-	White and Printed in or out	...	28/-
		White and Printed in and out	...	31/-	

SHARPE BROS. & CO., LTD.,

Telegraphic Address "SHARPE, SADDINGTON"

London Office: 76, FINSBURY PAVEMENT, E.C.

SWADLINCOTE POTTERIES, near Burton-on-Trent.

WASH-DOWN CLOSETS.**THE HOUSEHOLD CLOSET.**
No. 164.

White Basin and White Trap...	16/4
" Printed "...	19/4
" Basin, Gold Lines "...	24 0
Traps, with Vent Pipe, 1/- extra.	
Basins without Traps, 7/8 each less.	



N.B.—The HOUSEHOLD CLOSETS are labelled as above:—

These closets having been on the Market many years, and having given satisfaction wherever fixed, are now largely copied, so Architects are specially desired (when specifying the Household Closet) to see that the Closet supplied is labelled as shown.

**No. 186.**

Trap at an angle of 45 degrees.

**SECTION
PRICES**

Cane and White	3/-
Line and Printed	3 3
White	35
White and Printed	39
Decorated in Colours	48/-
With Turned-up Inlet	1/- extra

**No. 187.**

Front View—Turned-up Inlet

THE CAPSTAN CLOSET.**ADVANTAGES.** Trap can be fixed in any position.

The Basin is of the approved oval shape, with vertical lock, yet can be placed at any angle without interfering either with the working of the Closet or the appearance of the pedestal.

The Closet when fixed appears to be in one piece of earthenware.



MERRILL'S

Patent Automatic Flush Tank.

THE ONLY ABSOLUTELY RELIABLE FLUSH TANK MADE.

HAS NEITHER SMALL HOLES NOR AIR PIPES

"From these experiments it will be seen that the only cistern which came absolutely scotchless out of the several tests to which they were subjected was that of the WATER CARRIAGE ENGINEERING CO., which never failed to flush under any conditions, and which, moreover, is from its construction extremely unlikely to get out of order or admit of its being easily tampered with."—*Sheffield Corporation Report on Automatic Flushing Closets.*

When used for Drain Flushing with Waste Water it requires no Grease Trap.

MERRILL'S PATENT TROUGH CLOSET

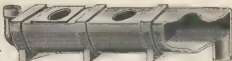
No. 4

SECTION OF TROUGH.

Greatest Cleanliness

with least

Consumption of Water.

Flushing Line.
Water Level.

"The form of trough which undoubtedly seems to us to be most favourable to a good flush is a triangular one, as exemplified in the two examples of the WATER CARRIAGE ENGINEERING CO. By adopting this form a minimum quantity of water reaches a maximum amount of surface, or, in other words, with the same volume of water as in the other forms, less surface liable to be soiled remains unaffected by the flush."—*Sheffield Corporation Report.*

PRICES.

	£	s.	d.		£	s.	d.
2 Seats	6	0	0	5 Seats	11	10	6
3 "	7	0	9	7 "	13	15	3
4 "	8	11	3	8 "	15	6	0
5 "	10	15	0	9 "	16	9	0

Prices are for 2 ft. 3 in. centres, and include Trough, Galvanized Iron Flush Tank, Down Pipe and Bend, and Seats. For greater widths than 2 ft. 3 in. centre to centre add 7/- per foot run. Special Feed Tap, 3/6.

In ordering these Troughs please say if outlet required as right or left end. Illustration shows right-hand Trough, i.e., outlet at right hand when observer is standing with face to Trough.

CHEAP TROUGH CLOSET.



A A A Bricks forming feet

These not included with Troughs.



PRICES.

	£	s.	d.		£	s.	d.		£	s.	d.
2 Seats	4	15	0	5 Seats	7	10	0	8 Seats	10	5	0
3 "	5	10	0	6 "	8	10	0	9 "	11	0	0
4 "	6	10	0	7 "	9	5	0				

Prices are for 2 ft. 3 in. centres, and include Trough, Merrill's Patent Flush Tank, in Galvanized Iron, Down Pipe and Bend, and Seat Seats. For extra widths add 5/- per foot run for children's size, and 3/6 per foot for adults' size.

It is not contended that the Open Top Trough is equal to Merrill's Patent, but it is as good as any other Trough made.

The Water Carriage Engineering Co., Ltd., Mowbray Street, Sheffield.
London Office & Showroom: 13, VICTORIA ST., WESTMINSTER.

MERRILL'S PATENT BASIN LATRINE, WITH SYPHONIC DISCHARGE,

For Schools, Barracks, and all places where a Superior Closet is required.



In this Latrine all the water is utilized in scouring the basins through the flushing runs, none being required to be taken by separate branch to charge the outlet syphon, and none being wasted by dribbling in as an afterflush. The basins are syphoned out each flush, and refilled, 10 inches of water being left to receive the soil. The discharge also acts as a drain flange, flushing the drain from syphon outlet to sewer.

PRICES.

With 4 inch Foot Pipe and Syphon.

2 Seats ..	£6 0 0	6 Seats ..	£11 10 0
3 " ..	7 0 0	7 " ..	13 0 0
4 " ..	8 10 0	8 " ..	14 10 0
5 " ..	10 0 0	9 " ..	16 0 0

With 6 inch Foot Pipe and Syphon.

2 Seats ..	£7 10 0	6 Seats ..	£12 15 0
3 " ..	8 15 0	7 " ..	14 5 0
4 " ..	9 15 0	8 " ..	15 15 0
5 " ..	11 3 0	9 " ..	17 15 0

Prices are for six 3 in. centres; for greater widths add 4/- per foot run for 4 in. Foot Pipe, and 3/- per foot for 6 in. Foot Pipe.

MERRILL'S PATENT AUTOMATIC FLUSHING SYPHON For Flushing Sewers and Drains.

Beyond all comparison

**THE MOST PERFECT
SYPHON MADE,**

And the only one which

WILL ALWAYS FLUSH

when the tank or chamber
is full.



The only

TRAPLESS

Syphon made.

**WILL WORK WITH SEWAGE
EQUALLY AS WELL AS WITH CLEAN WATER.**

No. 9. Prices in Cast Iron, Costed.

4 1/2 inch Syphon to Flush 6 inch Drain, £4	0 0	Extra per foot
5 " " " 9 " " "	5 10 0	depth of water
6 " " " 12 " " "	7 15 0	in tank.
7 " " " 15 " " "	10 1 0	
8 " " " 18 " " "	13 5 0	
9 " " " 21 " " "	16 5 0	

Prices are for 3 feet of water in Tank up to 9 inch Syphon.
2 ft. 6 in. for 10 in., 12 in., and 15 in. Syphon. Special Quota-
tions for other sizes or for quantities.

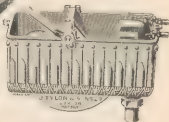
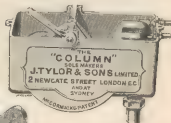
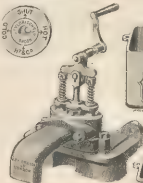
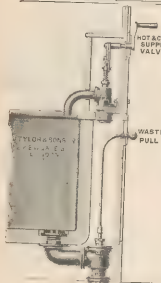
The Water Carriage Engineering Co., Ltd., Mowbray Street, Sheffield.
London Office & Showroom: 13, VICTORIA ST., WESTMINSTER.

J. TYLOR & SONS, LTD.,

2, Newgate Street, London,

AND

Belle Isle, King's Cross, LONDON, and Pitt Street, SYDNEY.



PUBLIC BATH VALVES.

The Valves are controlled by the attendant, and not by the bather.

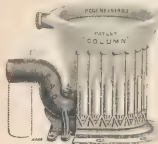
Price from £3.

Patent "Column" Valveless Waste-Preventing Syphon Cistern.

(Certificate of Merit Sanitary Institute, 1894.)

PRICES.

PLAIN PATTERN .. £1 1s to £1 12s, 6d
ORNAMENTAL do .. £1 6s to £1 0s, 0d.



Patent 1892 Pattern "Column" Closet.
Price from £2 7s, 6d

THIS Closet is made of Best White Earthenware with Lead Trap to shoot either out or down. The use of a Lead Trap ensures the joint between the closet and soil-pipe being well made. This joint between earthenware and metal—always a difficult joint to make—being *above the trap*, there is no danger of sewer gas entering the house through careless fixing. The water stands higher than the joint; careless fixing is therefore instantly detected by the water falling on the floor.



SPECIALLY MADE FOR CHILDREN.
Price £1

Illustrated Catalogue sent post free to Architects and Surveyors on application.

TWYFORD, "CLIFFE VALE" POTTERIES, HANLEY.



THE
"Twycliffe."

TWYFORD'S

SYMPHON CLOSET BASIN,

With Centre Outlet;

With Back Outlet with Joint
above Floor.

THIS Improved Syphon Closet is as simple in Construction as an ordinary "Wash Down," is without Mechanism, and requires only an ordinary Syphon Cistern with One Flush Pipe. Its action is quick and noiseless.

The Depth of Water in Basin is 7 in.

The Surface of Water is 12 x 10 in.

The Water Seal in Trap, which is 3½ in. forms an effectual barrier to the passage of sewer gas, and cannot be broken by Syphonic Action, or the emptying of Slops in Basin &c.

No special directions are required as to Fixing, except that it must not be fixed over a Trap, as no Second Trap is required.

With Back Outlet-Joint above floor—County Council pattern—the Connection between Outlet of Earthenware Trap and Lead Band can be made either by means of Twyford's Patent Porcelain-Metal W. pad Joint, or with ordinary brass Socket, in either case a perfect and permanent Air-tight Connection is formed.

Made in Porcelain—Plain, Decorated, and with Raised Ornamentation, and in Strong Fire Clay Porcelain Enamelled.

Made with Trap Outlet to suit requirements of the London County Council—and also with Outlet in centre of Basin.

COMPLETE COMBINATIONS.
From £5 upwards

ILLUSTRATED DESCRIPTIVE
SHEETS ON APPLICATION.

TWYFORD, "CLIFFE VALE" POTTERIES, HANLEY.

TWYFORD, "CLIFFE VALE" POTTERIES, HANLEY.

PEDESTAL "WASH DOWN" W. C. BASINS.



THE "DELUGE."

CENTRE OUTLET.

- No. 1. With "Venetian" Pattern in relief,
White or Ivory 42/-
No. 2. Plain Surface, White or Ivory 38/-
No. 3. Fire Clay, White Enamelled Inside... 38/-
Printed Patterns, 46/6.
No. 4. With Slop Top, as shown, 21/- extra.

IMPORTANT.

The particular attention of Architects is directed to the formation of the "DELUGE," "CARDINAL," and "PLANETAS" Basins.

Ordinary "Wash Downs" have the great objection that the back becomes fouled and offensive.

This objection is completely removed by the Recessed Back (as shown on illustration), which also secures a larger surface of water in basin.



THE "CARDINAL."

With Back Outlet to meet the requirements of the London County Council.

- No. 1. With "Venetian" Pattern in relief as
(shown on "Deluge") White or Ivory 49/6
No. 2. Plain Surface, White or Ivory ... 45/6
No. 3. Fire Clay, White Enamelled Inside ... 39/6
Printed Patterns, 34/-
No. 4. With Slop Top, as on "Deluge," 21/- extra.

THE "PLANET."

- No. 1. With Pattern in relief, White or
Ivory 38/-
No. 2. Plain Surface, White or Ivory 28/-
No. 3. Fire Clay, White Enamelled Inside 23/-
Printed Patterns, 34/-

The "Planetas," with Recessed Back,
7/6 extra.

These prices are for Basins only, and do not include the Patent Porcelain-Metal Wiped Joint, as shown on illustration.

This Joint, making a secure Connection between the Outlet of Trap and the Metal Soil Pipe, can be attached to the "Cardinal," "Planet," and "Planetas" S. or P. Trap, at 12/6 extra to above prices.



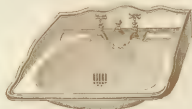
TWYFORD, "CLIFFE VALE" POTTERIES, HANLEY.

TWYFORD, "CLIFFE VALE" POTTERIES, HANLEY.

PORCELAIN LAVATORY BASINS.

"THE C.V."

With Improved Standing Waste and Overflow.



Oblong 20 1/2 x 19 in. ..	24/6	25/6
22 x 19 in. ..	25/6	26/6
24 x 19 in. ..	26/6	27/6
26 x 19 in. ..	27/6	28/6
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614 x 19 in. ..	321/6	

TWYFORD, "CLIFFE VALE" POTTERIES, HANLEY.

The "Convenient" Combination Closet Basin & Cistern.

FOR SITUATIONS WHERE CISTERN HAS TO BE FIXED IMMEDIATELY OVER BASIN.



WITH
SYPHON
or
WASH DOWN
BASIN.

Height, 41in. Width, 22½in. From Wall to front of Seat, 31in.

No. 1. Complete, including a "Twycliffe" Syphon Basin (Centre Outlet), with Pattern in relief; Syphon Cistern, with Mahogany Casing, Carved Panel, Copper lined, lever handle, and Mahogany Seat, £7 17s. 6d.

No. 2. As No. 1, but Basin with plain surface, and Mahogany Casing, plain Panel, £6 18s.

Nos. 1 and 2, with Back Outlet—County Council pattern—and Porcelain Metal Wiped Joint above floor, and lead bend 12s. 6d. extra.

Ordinary Brass Socket, 6s. extra.

No. 3. As No. 1, but with a "Wash Down" Basin, Pattern in relief and Casing with Plain Panel, £4 19s. 6d. Basin, with Plain Surface, as shown, £4 16s. 6d.

No. 4. As No. 3, but Basin in Fire Clay, Cane outside, Plain Surface, £4 13s.

Any of above with White Wood Casing instead of Mahogany, 10s. less.

THE DELUGE ADAMANT,

IN EXTRA STRONG FIRE CLAY.

The Strongest W.C. Basin made.

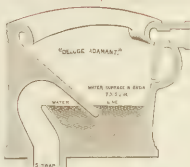
For HOSPITALS, ASYLUMS, DOCK-YARDS, POLICE STATIONS,

And all places where provision has to be made against rough usage.

No. 2. County Council pattern, with Back Outlet for connection above floor.

No. 3. With Centre Outlet as shown.

White Enamelled inside and out	...	...	...	40s.
" " " "	"	"	"	36s.



Practically Solid and Unbreakable. No part less than one inch thick.

TWYFORD, "CLIFFE VALE" POTTERIES, HANLEY.

TWYFORD, "CLIFFE VALE" POTTERIES, HANLEY.

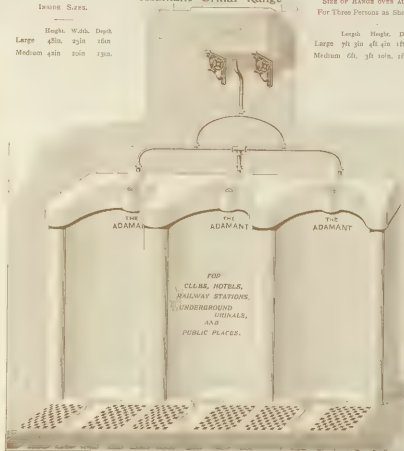
Adamant Urinal Range

Inside Sizes.

	Height.	Width.	Depth.
Large	45in.	23in.	16in.
Medium	43in.	20in.	13in.

SIZE OF RANGE OVER ALL
For Three Persons as Shown.

	Length.	Height.	Depth.
Large	7ft 3in.	4ft 4in.	1ft 7in.
Medium	6ft.	3ft 10in.	1ft 4in.



No 6. COMPLETE COMBINATION. Comprising Egg-shaped White Enamelled Fire Clay Adamant Urinals, Fire Clay Cast-iron Cased Channels, White Enamelled with Tiled Treads, White Enamelled Top and Front Facings, Adamant Fire Clay Automatic Cisterns with Cast Iron Proctors, and Copper Spange Pipes.

PRICES.

	Large.	Medium.
For Urinals as shown	£10 11 6	£11 12 0
" " " "	26 5 6	27 3 0
" " " "	28 0 6	28 10 0
" " " "	65 7 6	71 15 6
" " " "	25 4 0	27 5 0

Cheaper Ranges
may be supplied in
Buff Glaze.

Quotations given for
Ranges for any number
of Persons.

TWYFORD, "CLIFFE VALE" POTTERIES, HANLEY.

TWYFORD, "CLIFFE VALE" POTTERIES, HANLEY.

"CLIFFE VALE" PORCELAIN ENAMELLED "ADAMANT" FIRE CLAY LAVATORY RANGES, WITH OVERLAPPING JOINTS.



No 10. RANGE COMPLETE (as shown), including Three Wash Basins, Three Fire Clay "Adamant" Lavatory Ranges, with Soap Trays, Drain into Basins, Four Buff Glazed Fire Clay "Adamant" Lavatory Basins, Plain Fronts, no Backs, Overlapped Pipe, Six Brass Down Leads Taps, 1 in., Six Brass Safety Plugs, 1 in., and Buff Glazed Channeled Waste Pipes, 1 in. Lead Traps with Brass Screw Caps.

Basins, over all 18 x 18 x 5 in.	Range, 4 ft. 6 in. x 18 in.	£11 0 0	Basins, without Backs, 12
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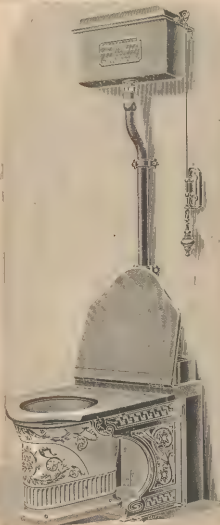
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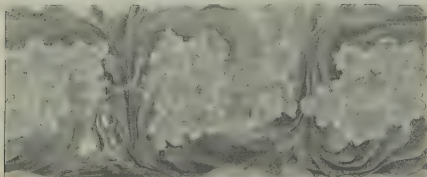
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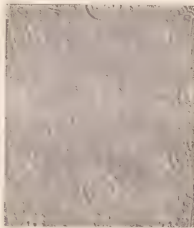
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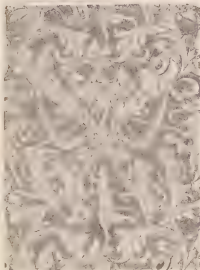
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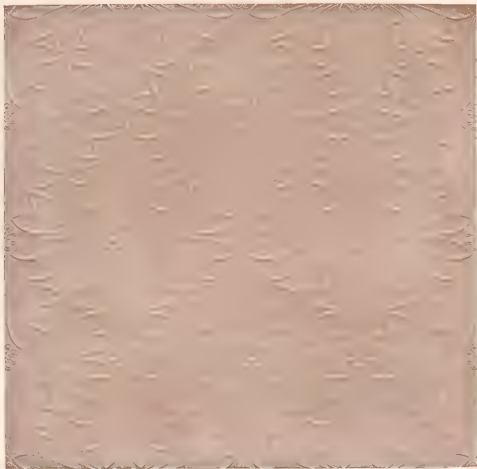
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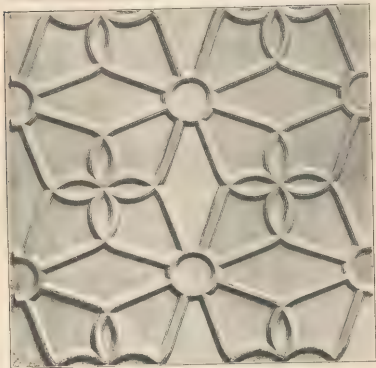
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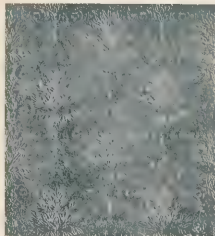


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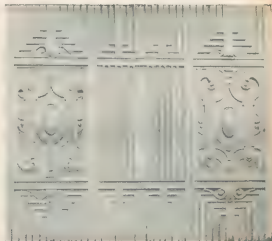
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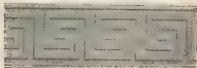


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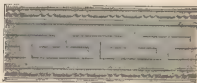


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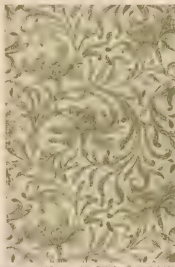
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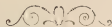
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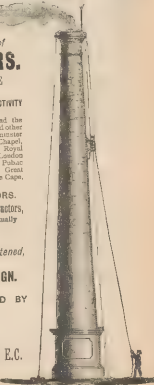
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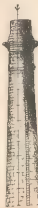
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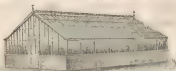
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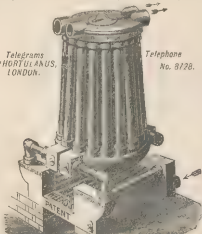
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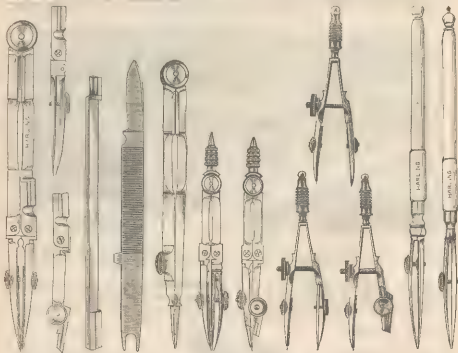
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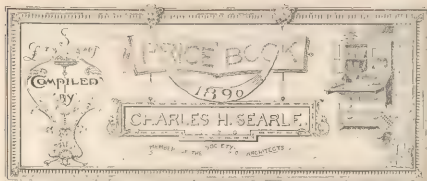
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SECTION 1.—SCHEDULE OF MATERIALS.

BRICKLAYS.—

Bricks, Flues ..	Per M	s. d.
Do. Grizzles ..	"	28 0
Do. Stocks ..	"	54 0
Do. Staffordshire blue common ..	"	43 0
Do. do. best ..	"	40 0
Facing bricks—Flicked stock ..	"	102 8
Do. Malm seconds ..	"	90 0
Do. Fareham red ..	"	110 0
Do. Gault pressed ..	"	120 8
Do. Staffordshire red ..	"	70 0
Do. pressed ..	"	55 0
Do. do. blue do. ..	"	160 0
Do. Suffolk white ..	"	90 0
Do. do. red ..	"	90 0
Do. Rubbers—Suffolk white ..	"	140 0
Do. do. red ..	"	140 8
Do. do. Fareham red ..	"	140 8

Bellars.—

Good well-burnt clay ..	Per yard	8 0
Clean pit gravel ..	"	6 0
Thames ..	"	7 0

Sand.—

Good clean sharp pit ..	Per yard	7 0
Thames ..	"	7 6
Do. washed ..	"	9 0

Lime.—

Chalk ..	Per yard	11 6
Grey stone lamp ..	"	11 6
Do. ground ..	"	18 0
Blue lime lamp ..	Per ton	20 0
Do. ground ..	"	24 0

Cement.—

Roman ..	Per barrel	1 4
Portland ..	"	3 5
Compo ..	Per hod	1 6

Mason.—

Stone, including cartage and waste.

Best ..	Per ft. cube	2 9
---------	--------------	-----

MASON (continued).—

Portland ..	per ft. cube	8 5
York, hard ..	"	8 6

WALLS.—

Hassock stone for walling ..	Per yard cube, variable	
Kentish ragstone for facings ..	Per ton	14 6

CARPENTER.—

Pine sawn to scantlings ..	per ft. cube	3 3
Do. do. 24 in. x 7 in. ..	per ft. lin.	0 34
Do. do. 3 in. x 9 in. ..	"	0 64
Do. do. 3 in. x 11 in. ..	"	0 64
Do. do. 3 in. x 12 in. ..	"	0 64
Do. do. 4 in. x 9 in. ..	"	0 64
Do. do. 4 in. x 11 in. ..	"	0 84
Do. do. 4 in. x 12 in. ..	"	0 9
Cut nails, average ..	per cwt	16 0
Do. small quantities ..	per 10	0 3

Felt.—

Ranking ..	per ft. square	0 1
Asphalted roofing ..	"	0 14
Hair, according to thickness ..	"	0 14

JOINER.—

Best white deal, 1 in. thick ..	per ft. super	0 34
Do. yellow do. do. do. ..	"	0 44
Do. yellow pine do. do. ..	"	0 4
Do. pitch pine do. do. ..	"	0 44
Do. English oak do. do. ..	"	0 6
Teak ..	"	0 10
American walnut ..	"	0 10
Italian do. ..	"	0 10
Honduras mahogany ..	"	0 10
Cuba do. ..	"	1 0
Glass, best ..	per lb.	0 8
Glass paper assorted ..	per quire	1 0

SLATER AND TILER.—

Slating battens ..	per bundle	2 0
Laths for tiling, plain deal ..	"	5 0
Do. oak ..	"	5 2

PLASTER AND TILES (continued).

	s. d.
Zinc nails	per lb. 0 7
Composition do.	0 7
Copper do.	1 2
Banger slates—Ladies	per M (of 1200) 112 0
Do. Countess	200 0
Do. Duchess	300 0
Plain red Beauty tiles	42 6
Do. do. helios	48 6
Do. do. tile-and-half	85 0
Pan tiles	75 0
Hip and valley tiles to suit pitch	each 0 4
Ridge tile, plain red	per ft. lin. 0 4
Do. do. blue	0 5
Ridge roll tile	0 6

FOURTEEN AND STARTS—

	per cwt. 10 0
Heavy castings	9 0
Rolled iron joists, ordinary sections	10 0
Do. do. deep	10 0
Riveted girders	14 0
Wrought iron bar, square and round	37 6
Do. ties galvanised for hollow walls	37 6
Do. galvanised	47 6
Rain-water pipes, 2 in. diam.	per yd. lin. 0 1
Do. 2 1/2 in. do.	0 1
Do. 3 in. do.	0 1
Do. 3 1/2 in. do.	1 5
Do. 4 in. do.	1 8
Eaves gutters, half round, 8 in.	0 7
Do. do. 4 in.	0 9
Do. do. 5 in.	1 0
Do. do. 6 in.	1 4
Do. do. 8 in.	0 11
Do. do. 10 in.	1 2
Do. do. 12 in.	1 8

FIFTEEN -

	per cwt. 18 0
Milled lead in sheets	18 0
Lead pipe	10 0
Do. soil pipe	10 0
Red lead cement	per lb. 6 8
Iron do.	0 8
Iron wall hooks	0 8
Do. pipe do.	0 3
Glut walls	0 5
Copper nails	1 5
Plumber's solder	0 8
Pine do.	0 9
Copper wire	1 6

PLASTER—

	per load 26 0
Laths, single	35 0
Lath-and-a-half	45 0
Do. double	45 0

PLASTER (continued).

	s. d.
Fatty lime	per bag 1 3
Coarse sand	per bag 5 8
Size	per lb. 0 2
Double do.	0 3
Whiting, lump or balls	per ton 18 0
Dusts	per ton 1 2
Best long cow hair	per cwt. 10 0
Plaster of Paris, coarse	per ton 40 0
Do. fine	55 0
Knox's cement, coarse	55 0
Do. fine	75 0
Parian cement, coarse	55 0
Do. fine	75 0
Martin's cement	55 0

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PLASTER—

	per yd. super 1 2
Fireproof plaster slabs (wired)	1 0
Fibrous do. do. (dry)	0 6
Do. do. do. (slump)	1 2
Fibrous do. do.	0 7

LATHES—

	per ft. super 0 9
Clear ash, 15 ea.	0 10
Do. 21 ea.	1 0
Do. 26 ea.	1 2
Do. 32 ea.	1 10
Foiled glass extra	0 3
Ground do.	0 2
Matted do.	0 2
Hartley's 1/2 in. thick	0 4
Do. 3/4 in. do.	0 7
Rough cast plate, 1/2 in.	0 10
Do. 3/4 in.	3 3
Do. 1 in.	4 0

PAINTER—

	per lb. 0 6
Hard stopping	11 3
Paints same	0 3
White lead ground in oil	14 0
Patent knotting	per gallon 0 6
Pigments, various	per gallon 3 3
Lime oil	2 6
Do. belled	2 2
Turpentine	12 0
Stains, various	per lb. 0 2
Red lead	0 4
Lump black	per gallon 8 0
Brasswood black varnish	2 0
Oak varnish	11 0
Copal do.	13 0
French polish	per cwt. 10 0
Lime oil putty	0 6

SECTION 2.

SCHEDULE OF WAGES.

	s. d.
Excavator	per hour 7 1/2 to 0 8
Do. working in water	0 10
Boxholder	0 8
Bricklayer	0 11
Do. labourer	14 to 0 7 1/2
Mason	15d. to 0 11
Do. labourer	0 7 1/2
Do. lad	0 5

	s. d.
Marble Mason	per hour 1 1/2
Carpenter or joiner	0 11
Do. labourer	0 7 1/2
Do. lad	0 7 1/2
Tiler	0 11
Do. labourer	0 7 1/2
Blaster	11d. to 1 0
Do. labourer	0 7 1/2

		s. d.
Slate mason	per hour	1 0
Do. labourer	"	0 7 1/2
Do. boy	"	0 4 1/2
Engineer	"	1 0 1/2
Smith	"	0 11
Do. labourer	"	0 7 1/2
Plumber	"	1 0 1/2
Do. and mason	"	1 8
Zinc worker	"	0 11
Do. labourer	"	0 7 1/2
Gaffer	"	0 11
Do. labourer	"	7 1/2 to 0 7 1/2
Do. boy	"	0 4 1/2
Bellhanger	per hour 6d.	0 1
Do. assistant	"	0 7
Plasterer's modeller	"	1 2 1/2
Plasterer	"	0 11
Do. labourer	"	0 4 1/2
Blowboy	"	0 5
Scouring woman	"	0 10 1/2
Glazier	"	0 10 1/2
Painter	"	0 10 1/2
French polisher	"	0 10 1/2
Gilder	"	0 11
Paperhanger	"	0 10 1/2

SECTION 3.

SCHEDULE OF MEASURED WORKS.

EXCAVATOR

	s. d.		s. d.
Digging from surface not exceeding 12 in. deep	per yd. sup. 6 1/2	Extra for 4 in. double junctions	per yd. sup. 2 0
Do. in common soils not exceeding 8 in. depth, and throwing out	per yd. cube 0 3 1/2	Do. 6 in. do.	" 2 0
Digging in gravel or stiff clay, not exceeding 6 ft. in depth and throwing out	per yd. cube 0 4 1/2	Do. 9 in. do.	" 4 0
Do. in common soils exceeding 6 ft., and do. in gravel or stiff clay and, do. do.	" 0 7 1/2	Do. 12 in. do.	" 7 4
Backfilling out ground, add	" 0 7 1/2	Do. 15 in. do.	" 12 0
Filling in and ramming, add	" 0 7 1/2	Do. 18 in. do.	" 16 0
Filling into barrows and wheeling first 20 yards, add	" 0 4 1/2	Bedding and covering 8 in. pipes to Portland cement concrete	per ft. lin. 0 8
Do. every additional run, add	" 0 4 1/2	Do. 12 in.	" 1 0
Filling into carts, carting and shovelling, not exceeding 1 mile, add	" 5 0	Do. 15 in.	" 1 8
For every additional mile, add	" 1 0	Do. 18 in.	" 2 0
Planing and strutting to sides of excavation Do. do., to trenches for every foot in depth	per ft. sup. 0 0	4 in. siphon traps	per number 0 6
Hard dry rubbish and filling in and ramming	per yd. cube 1 0	8 in. Do.	" 0 0
		9 in. Do.	" 1 0
		12 in. Do.	" 1 0
		15 in. Do.	" 1 0
		18 in. Do.	" 1 0

DRAINING

4 in. glazed stoneware drain pipe with socket joints set in cement, and laying to current, including digging, not exceeding 8 ft. deep, filling in and ramming ground	per ft. lin. 0 8	Concrete composed of pit ballast and ground lime, including wheeling and filling in to foundations	per yd. cube 0 0
6 in. Do. do. do. do.	0 10 1/2	Do. do. 6 in. thick	per yd. sup. 1 8
8 in. Do. do. do. do.	1 0	Concrete composed of Thames ballast and Portland cement, including wheeling and filling in to foundations	per yd. cube 1 0
10 in. Do. do. do. do.	1 2 1/2	Do. do. 8 in. thick	per yd. sup. 2 0
12 in. Do. do. do. do.	1 5 1/2	Under floors	per yd. sup. 2 0
14 in. Do. do. do. do.	1 8 1/2	Do. do. 9 in. thick	per yd. sup. 4 0
16 in. Do. do. do. do.	2 1 1/2	If thrown into foundations from a stage, add timbering and boarding for building concrete walls, and waste	per ft. sup. 0 3
Extra for 4 in. bends	per number 1 3	If concrete is composed of broken brick or stone clippings, deduct	per yd. cube 1 6
Do. 6 in. do.	" 1 7		
Do. 8 in. do.	" 2 1		
Do. 10 in. do.	" 2 5		
Do. 12 in. do.	" 3 0		
Do. 14 in. do.	" 3 5		
Do. 16 in. do.	" 4 0		
Do. 4 in. single junctions	" 2 1		
Do. 6 in. do.	" 2 4		
Do. 8 in. do.	" 2 7		
Do. 10 in. do.	" 3 0		
Do. 12 in. do.	" 3 3		
Do. 14 in. do.	" 3 6		
Do. 16 in. do.	" 3 9		

BRICKLAYER

All bricks are to be sound, hard, square, and well burnt, and where not otherwise described are to be grey stocks.
Sand to be clean sharp coarse grit sand, and washed where used with cement, mortar to be composed of sand and fresh burnt

BRICKLAYERS (continued)—			
Encaustic tiles 6 in. x 6 in. at from	per No.	1 0	
Do. 8 in. x 8 in. do.	per doz.	3 0	
White glazed do. 6 in. x 6 in. do.	per doz.	7 6	
Do. 8 in. x 8 in. do.	per doz.	2 6	
Do. halves of 6 in. do.	per ft. sup.	1 6	
Do. 6 in. x 6 in. fixed complete do.	per ft. sup.	2 0	
Do. octagons do.	per ft. sup.	1 0	

FACINGS.—(Extra only upon the brickwork).

Battering face	per ft. sup.	0 1	
Circular face	per ft. sup.	0 1	
Fair face and streak joint for lime-whiting	per ft. sup.	0 1	
Stocks selected from stock	per ft. sup.	0 1	
Picked stocks	per ft. sup.	0 1	
Bright yellow stocks	per ft. sup.	0 2	
Main, second	per ft. sup.	0 7	
Do. best	per ft. sup.	0 6	
Main paviors	per ft. sup.	0 1	
Ordinary red brick	per ft. sup.	0 2	
Do.	per ft. sup.	0 5	
Suffolk best white	per ft. sup.	0 6	
Do. red	per ft. sup.	0 10	
Do. do. rubbers (not gauged work)	per ft. sup.	2 6	
Do. rubbed, gauged, and set in putty	per ft. sup.	2 6	
Do. do. reduced to 5 courses to the foot	per ft. sup.	2 9	
Keat galls, wire cut	per ft. sup.	0 2	
Do. best pressed	per ft. sup.	0 1	
Loughboro red, best pressed	per ft. sup.	0 4	
Do. white	per ft. sup.	0 6	
Do. do. best	per ft. sup.	0 9	
Do. solid, handmade	per ft. sup.	0 8	
Fusion purple bricks	per ft. sup.	0 2	
Farham red	per ft. sup.	0 6	
Do. thin, rising five courses to the foot	per ft. sup.	0 8	
Staffordshire blue pressed brick	per ft. sup.	0 6	
White glazed brick, equal quantity of headers and stretchers	per ft. sup.	0 6	

POINTING.

Out joint pointing to new work	per ft. sup.	0 1	
Tuck pointing to ditto	per ft. sup.	0 2	
Raking out cement joints and pointing with fat joint in white mortar	per ft. sup.	0 2	
Brickwork, coloured and drawn	per ft. sup.	0 1	
Flat joint pointing in ash mortar, including scaffolding, raking out decayed mortar, washing and staining brickwork	per ft. sup.	0 3	
Do. do. do. in cement	per ft. sup.	0 4	
Do. do. do. do. to chimney shafts	per ft. sup.	0 6	
Tuck pointing to old fronts and do. do.	per ft. sup.	0 6	
Lime-whiting one coat	per yd. sup.	0 1	
Do. two coats	per yd. sup.	0 2	
Damping	per yd. sup.	0 9	
Portland cement rendering	per yd. sup.	2 3	
Do. weathering	per ft. sup.	0 4	
Mouldings in gauged and cut masonry out in putty	per ft. sup.	2 6	
Do. circular	per ft. sup.	4 0	
Extra to ornamental bricks	per ft. sup.	3 6	
Do. 6 in. x 6 in. and bedding	per No.	1 0	
Do. 9 in. x 9 in. and do.	per No.	2 0	
Facet 2 ft. 8 in. x 1 ft. 6 in. and do.	per No.	30 0	
Extra to cut and gauged Keybrick 11 in. x 8 in. and 16 in. bolts and do.	per No.	10 0	

ARCHES.—(Extra only upon brickwork).

Extra to rough arches over listels and chimney bays	per ft. lin.	0 3	
Do. do. Gothic arch in half brick wall in cement	per ft. sup.	4 4	
Rough relieving arch in stocks	per ft. sup.	5 4	
Fair arch in half brick rings of grey stocks, set and pointed in cement to segment apertures	per ft. sup.	1 5	
Do. all as last but to circular do.	per ft. sup.	1 5	

BRICKLAYERS (continued)—

Fair arch in half brick rings of grey stocks, set and pointed in red brick to segment aperture	per ft. sup.	1 8	
Do. do. do. but to circular do.	per ft. sup.	1 8	
Fair rubbed gauged arch in best red rubbers and set in putty—segment apertures	per ft. sup.	2 9	
Do. all as last, but to semi-circular do.	per ft. sup.	3 0	
Do. do. but to elliptical or Gothic do.	per ft. sup.	3 8	
Labour to 2 in. cut and rubbed roll angle to red brick arch	per ft. lin.	0 7	
Fair ends	per No.	0 4	
Do. do. 2 in. diameter	per ft. lin.	0 8	
Fair ends	per No.	0 4	

FITTINGS.

Glazed Stoneware kitchen sinks—	per No.	9 0	
2 ft. x 1 ft. 5 in., and 2 1/2 in. deep	per No.	25 0	
4 ft. x 2 ft. and 2 1/2 in. deep	per No.	25 0	
Angular sinks—	per No.	7 6	
2 ft. each way, 3 in. deep	per No.	12 6	
White glazed porcelain sinks—	per No.	23 0	
2 ft. x 1 ft. 6 in. and 2 1/2 in. deep	per No.	45 0	
8 ft. x 2 ft. do.	per No.	45 0	
4 ft. x 2 ft. do.	per No.	45 0	
Household's sinks, 2 ft. 8 in. x 1 ft. 6 in. and 2 1/2 in. deep	per No.	30 0	
Butler's white glazed sinks—	per No.	36 0	
1 ft. 10 in. x 1 ft. 8 in. x 2 1/2 in. deep	per No.	82 0	
2 ft. x 1 ft. 4 in. x 10 in. do.	per No.	82 0	

SADDLERS ONLY.—INCLUDING ALL MATERIALS.

Regular stoves up to 80 in.	per No.	7 0	
Elliptic or hob stoves ranged in cement at sides	per No.	8 0	
Open range with oven and boiler 30 in. do.	per No.	35 0	
Do. do. 35 in. do.	per No.	80 0	
Do. do. 45 in. do.	per No.	90 0	
Close kitcheners—including smith's attendance—	per No.	60 0	
Do. up to 48 in. do.	per No.	60 0	
Do. do. 50 in. do.	per No.	90 0	
Do. do. 72 in. do.	per No.	110 0	
Copper washing copper to hold 10 gallons, and including setting in stock, and fire-brick work in cement, and fire-clay, with free-furnace work door and frame, bars, scot door, and damper	per No.	60 0	
Do. 18 gallons do.	per No.	80 0	
Do. 34 gallons do.	per No.	100 0	
Terra-cotta chimney pots, 2 ft. high, set in cement	per No.	4 0	
Do. 2 ft. 6 in. high do.	per No.	5 0	
Do. 3 ft. high do.	per No.	7 0	
Redware do. 2 ft. high, and setting in mortar	per No.	2 0	
Do. 3 ft. do.	per No.	5 0	
Do. 4 ft. do.	per No.	5 0	
Do. 6 ft. do.	per No.	8 6	
Do. 2 ft. high, and setting in cement	per No.	3 0	
Do. 3 ft. do.	per No.	6 6	
Do. 4 ft. do.	per No.	8 0	
Do. 6 ft. do.	per No.	10 6	

WALLING.

Rough rubble stone walling	per yd. cube	16 6	
Kentish rag stone walling	per yd. cube	16 6	
Do. random coursed work	per yd. cube	20 0	
Do. wall 12 in. thick, finished fair both sides	per ft. sup.	1 0	
Do. extra to facings in random rubble, with one binder to every yard super, all good sound stones with neat cement joint	per yd. sup.	0 9	
Do. extra on facings to Gothic arches and pointing	per ft. sup.	1 0	
Rough setting to rakes and sprays	per ft. sup.	0 8	
Do. do. circular	per ft. sup.	0 6	
Fair cutting in facing	per ft. lin.	0 4	
Do. circular	per ft. lin.	0 8	
Do. squaring gable cheeks	per ft. lin.	0 6	
Ends tread, cut, pinned, and made good to in facings	per No.	1 0	

MASON.

All stone to be free from vents, shakes, flaws, and holes, and other defects: to be set where requisite on its natural bed, to be in as large stones as are suitable, and can reasonably be obtained, and all to be bedded and jointed in cement.

Clear up any stonework so requiring during progress.

Clear all down at completion.

Bath stonework is frequently priced out stone and all labour of every kind in working and setting, and, as an average of ordinary church work may be considered as approximately worth from 5s. to 6s. per foot cube.

Pew-dial stone is sometimes dealt with in a similar manner, and valued at from 7s. to 8s. per foot cube. It is better, however, to keep the stone and labour separate, measuring all labour as it appears on the surface and pricing distinct from the stone.

Yorkshire Stones.

	per ft. sup.	per ft. lin.
2 1/2 in. tool'd paving and laying in courses ..	1 2	
3 in. self faced cover, included coped edges ..	1 11	
3 in. tool'd one side landing ..	2 6	
4 in. do. do. do. ..	2 7	
4 in. do. both sides do. ..	4 0	
5 in. tool'd skirt ..	per No. 1 3	
Round'd corners ..	1 2	
Holes cut and dished ..		
2 in. x 9 in. riser, tool'd both sides, fair edges ..	per ft. lin. 0 42	
2 in. x 3 in. do. and do. ..	0 72	
2 in. x 4 in. do. and do. ..	0 72	
2 1/2 in. x 1 1/2 in. tread, tool'd top and front edges, and back-sloped ..	1 6	
2 1/2 in. x 4 1/2 in. riser, tool'd all round ..	0 7	
3 in. x 1 1/2 in. tread do. ..	2 1	
3 in. x 1 1/2 in. do. do. ..	2 4	
3 in. winding tread, greatest width 20 in. tool'd as broad ..	2 1 1/2	
4 in. x 9 in. threshold, tool'd top, fair both edges ..	1 9	
4 in. x 1 1/2 in. do. do. ..	2 11	
4 in. x 1 1/2 in. do. do. ..	2 6	
6 in. x 9 in. step, tool'd top and front edge ..	2 8	
6 in. x 9 in. do. as laid and back-sloped ..	2 8	
6 in. x 11 in. step, tool'd all round ..	2 8	
6 in. x 12 in. do. tool'd top and face, and back-sloped ..	3 7 1/2	
6 in. x 12 in. do. all as laid and fair bed ..	3 7 1/2	
8 in. x 1 1/2 in. do. tool'd top and front edge ..	4 1	
7 in. x 20 in. solid winding step, tool'd three faces, fair jointed bed ..	7 10	
Mortises in York ..	per No. 0 8	
Do. and lead ..	0 4	
Sinkings in 2 1/2 in. paving for gutters ..	0 3	
8 in. tool'd template 9 in. x 9 in. ..	1 6	
9 in. do. 9 in. x 1 1/2 in. ..	1 9	
Large templates, for every inch in thickness per ft. sup. ..	0 7	

CARPENTER.

All wood to be well seasoned, free from sap, shakes, large or loose knots, and all other defects.

Timber to be Baltic yellow fir. Planks, deals, and battens yellow Christians.

Oak to be English.

Timbers are to hold when fixed the scantlings of the full sizes specified.

No outside slabs are to be used, nor any sapwood.

	per sq. sup.	per sq. sup.
Deal, rough centring to walls ..	23 6	
Do. to segment aperture ..	per ft. sup. 0 2 1/2	
Do. to semi and circular do. ..	0 3 1/2	
Do. to trimmer arch ..	0 3 1/2	
Turning piece to 4 1/2 in. segment within ..	per ft. lin. 0 2 1/2	
Do. to semi and circular do. ..	0 3 1/2	
Groins, measured on the line of the points ..	0 9	
Fir in lintels, wall and bead plates, ground joints and sleepers ..	per ft. cube 2 8	
Do. do. circular ..	2 2	
Do. in girder ritches ..	2 10 1/2	
Do. framed in floors, doors, and partitions ..	2 8 1/2	
Do. do. circular ..	2 8	
Do. framed in roof trusses ..	2 2	

CARPENTER (continued).

	per ft. sup.	per ft. sup.
Planing to fir ..	8 4	
Square and plane do. ..	0 1	
Deal, rough bracketting ..	0 2	
Asphalted roofing felt and nailing to board-ing, joints closely butted, measured net ..	per square 9 0	
2 in. x 2 1/2 in. deal rough slate battens, and nailing to gauge for Cornish slating to 3 in. lap ..	9 0	
1 in. deal rough boarding as gangway ..	20 0	
Do. close boarding, edges shot ..	12 0	
Do. do. and including farrings ..	23 0	
2 in. deal rough eaves board ..	per ft. sup. 0 2 1/2	
1 in. do. gutter board and framed beasers ..	0 2 1/2	
1 1/2 in. deal rough pitching piece and spiking ..	0 2 1/2	
Do. do. do. framed hip ..	0 1 1/2	
Do. do. wrought both sides and cross-longued ..	0 1 1/2	
2 in. deal rough framed curb ..	0 1 1/2	
Do. do. do. framed ridge and hips ..	0 1 1/2	
Wall plugging ..	per ft. lin. 0 1	
Deal rough dovetailed beasers ..	0 1 1/2	
Do. feather edge springing fillet ..	0 1	
Do. do. sliding fillet ..	0 1	
Do. do. herring-bone strutting to 7 in. joints ..	0 4	
Do. do. do. to 9 in. do. ..	0 4 1/2	
Do. do. do. to 11 in. do. ..	0 7	
Do. do. rebated cross drip ..	0 1	
Labour notching 12 in. girl in 5 in. deal ..	per No. 0 1	
Do. circular perforations 8 in. diam. 1 1/2 in. deal ..	0 2	
Do. do. 1 1/2 in. do. ..	0 8	
Do. shankings in deal for soldier boards ..	0 1	
Do. shaping ends of hammer beams 10 in. x 6 in. to pattern ..	2 6	
Fixing only to iron screw bolts ..	0 2	
Do. the heads let in flush ..	0 3	
Ends of timbers bedded in shoes, and heads in white lead ..	0 6	
Double felt seatings, according to size ..	2d to 6d	
Extra to trimming door (posts 2 1/2 in. x 6 in.) for circular windows 8 ft. 6 in. diameter, including blocking for circular wall, forming margin to flooring, with rounded seating and sunk steel headed apron lining ..	12 6	
Extra to trimming for, and forming in quarter partitions trapway 2 ft. x 1 ft. 6 in. for access to cistern, including boarded linings, stop chamfered, one panel trap, hinges and fastenings ..	6 3	
Fir, rough pulpit cleats 6 in. x 8 in. and 15 inches long and splicing to principals ..	1 6	
Deal dovetailed boxes for sunk casework with counter sunk outlets ..	2 6	

JOINER.

The wood to be as before described.

Thickness of joiners' work are to be understood as the nominal thicknesses.

All joint pieces are to be cross-longued.

FLOOR.

	per square
2 in. best yellow deal prepared floor ..	17 9
1 in. do. do. ..	19 8
1 in. do. do. ..	23 0
1 in. best yellow battens, prepared straight, joint flooring, with splayed headings ..	25 0
1 1/2 in. do. do. ..	21 8
If covered with hoop iron, solid ..	8 0
1 1/2 in. yellow deal, rough washed lin., edges shot ..	28 4
Do. do. do. ..	29 6

JOISTS (continued)		S. B.	
1½ in. batton flooring, as described, including bearers in openings	per ft. sup.	0	64
Glued and mitred board to 1½ in. floor ..	per ft. lin.	0	9
Extra for forming sinking for mat, 3 ft. x 2 ft.	per No.	0	0

SHEATHING

½ in. x 4 in. deal, wrought one side, square skirting, including grounds and backings plucked to walls	per ft. lin.	0	24
1 in. x 5 in. do. .. all as last	per ft. lin.	0	34
1 in. x 9 in. do. .. all as described, and chamfered	per ft. lin.	0	44
1½ in. x 12 in. do. .. all as described, and moulded, and moulded sunk ..	per ft. lin.	1	34

WINDOWS, DOOR, AND PARTITION FRAMES.

Deal wrought framed and stop chamfered ..	per ft. cube	5	8
Do., all as last, rebated and beaded	per ft. cube	5	9
1½ in. x 4 in. Wrought all round and framed ..	per ft. lin.	0	24
2 in. x 4 in. do., all as last and weathered ..	per ft. lin.	0	34
2½ in. x 4 in. Wrought all round and framed ..	per ft. lin.	0	44
3½ in. x 4½ in. Proper door case	per ft. lin.	0	54
3½ in. x 5 in. Wrought, framed, rebated, beaded, and chamfered	per ft. lin.	0	64
Do., all as last, but segmental	per ft. lin.	0	74
Do., do., semi-circular	per ft. lin.	0	84
2½ in. x 5 in. Wrought, framed, twice rebated, twice beaded, twice chamfered	per ft. lin.	0	94
4 in. x 6 in. Wrought, framed, weathered, rebated, chamfered, and twice beaded ..	per ft. lin.	0	74
4½ in. x 4½ in. Proper door case	per ft. lin.	0	84
5 in. x 6 in. Wrought, framed, weathered, rebated, chamfered, and twice beaded ..	per ft. lin.	0	11
Heading joint to circular frame, including oak keys and wedges	per No.	0	6
Wrought, circular, solid window frame, 4 ft. 6 in. in diameter, with 5 in. x 2½ in. rim, rebated, beaded, and chamfered ..	per No.	10	6
Do., all as last, but 6 ft. 6 in. diameter ..	per No.	14	6

CASED WINDOW FRAMES AND SASHES.

Deal cased frame, with oak sunk weathered check-throated sill, 1 in. deal outer linings, 1½ in. tongued pulley styles, 2 in. sash beads, 1½ in. wide for, and including, 1½ in. deal oval sashes in single squares, single hang with patent lines, brass cased pulleys, and iron weights ..	per ft. sup.	1	34
Do., all as last, with 2 in. sashes	per ft. sup.	1	74
Do., do., do. 2½ in. sashes, brass axle pulleys	per ft. sup.	2	1
If with double hung sashes, add	per ft. sup.	0	3
If with 12 light sashes, add	per ft. sup.	0	1
If in small squares, say 7 in. x 7 in., with thick astragal bars, add	per ft. sup.	0	8
Circular head to frame and sash, measured as square and charged separately	per ft. sup.	0	4
If lead weights for 1½ in. sashes, add ..	per ft. sup.	0	1
If lead weights for 2 in. sashes, add ..	per ft. sup.	0	2
If lead weights for 2½ in. sashes, add ..	per ft. sup.	0	4
Deal cased frames, with 1½ in. oval sashes as before, but Venetian with solid mullions, the sashes double hung, across the side lights	per ft. sup.	2	7
Do., all as last, with 2 in. sashes	per ft. sup.	2	8
Do., do., do. 2½ in. sashes	per ft. sup.	2	9
Continued and moulded horns to 1½ in. sashes	per No.	0	9
Do., do., do. 2 in. sashes	per No.	0	8
Do., do., do. 2½ in. sashes	per No.	0	4

CASEMENTS.

Deal proper casement frames, with oak sunk weathered and throated sills, 2 in. deal moulded casements (no ironmongery) ..	per ft. sup.	1	64
Deal fillets to form 3 joints to meet in styles and screwing (both styles measured) ..	per ft. lin.	0	4
Deal moulded cover fillet	per ft. lin.	0	2
Splay rebate and throat to lower rail ..	per ft. lin.	0	24
Tongue and grooves to hanging stile ..	per ft. lin.	0	2

JUNKIES (continued)—

Lenses		S. B.	
1½ in. deal oval fixed light	per ft. sup.	0	94
2 in. do. do.	per ft. sup.	0	94
2½ in. do. do.	per ft. sup.	0	114
If hung on butt hinges, add	per ft. sup.	0	1
If double hung with lines and iron weights, add	per ft. sup.	0	4
2 in. deal oval fixed skylight	per ft. sup.	1	04
Deal hip rolls	per ft. lin.	0	6
2½ in. deal oval, moulded and rebated, fixed sash, with deep bottom rail, including stout zinc rebated sash, bars and rims secured to the wood to form pattern lights with margins, circles, &c., to simple designs	per ft. sup.	2	4

DOORS.

2 in. deal tongued, beaded, and ledged door ..	per ft. sup.	0	94
1 in. do. do.	per ft. sup.	0	104
1½ in. do. do.	per ft. sup.	0	114
1¾ in. do. do.	per ft. sup.	0	124
If of beaded, add	per ft. sup.	0	3
Do. if hung folding, add	per ft. sup.	0	1
1½ in. skirting framed, ledged, and beaded door, covered on one side with 1 in. tongued and beaded boarding, fixed upright in half board widths	per ft. sup.	1	24
2 in. do. do.	per ft. sup.	1	9
2½ in. skirting framed, ledged, and beaded folding door, filled in with 1 in. tongued and V jointed boarding, fixed upright in narrow widths	per No.	8	14
Notches in frames for ends of ledges ..	per No.	0	11
1½ in. square-framed one panel door ..	per ft. sup.	0	104
Do. moulded and square door	per ft. sup.	0	104
1½ in. two panel square framed door ..	per ft. sup.	0	104
Do. four panel do.	per ft. sup.	0	114
Do. two panel bead flush and square ..	per ft. sup.	0	104
Do. four do.	per ft. sup.	0	114
Do. two panel, moulded both sides door ..	per ft. sup.	0	114
Do. four do.	per ft. sup.	0	124
2 in. two panel square framed door ..	per ft. sup.	0	104
Do. four do.	per ft. sup.	0	114
Do. two panel bead flush and square door ..	per ft. sup.	0	114
Do. four do.	per ft. sup.	0	124
Do. two panel moulded both sides door ..	per ft. sup.	0	114
Do. four do.	per ft. sup.	0	124
2 in. four panel stop, chamfered both sides doors, V jointed panels	per ft. sup.	1	24

Do. all as last, but the upper panels with diminished styles prepared for glass ..	per ft. sup.	1	34
Do. folding doors in four folds the set, each leaf in two panels, stop chamfered both sides, V jointed panels	per ft. sup.	1	34
2½ in. folding doors, each leaf in two panels, lower do. bead flush and stop chamfered, upper do. moulded with diminished styles ..	per ft. sup.	1	64
2½ in. do., each leaf in three panels, the framing of plank and half-plank widths, four panel collection moulded on one side bead flush the other, 1½ in. thick, two upper panels with mouldings for glass ..	per ft. sup.	1	9

FIXED PANELLED.

1½ in. deal wrought one side, double rebated, and twice beaded jamb and sash linings, framed in five panels the set, the panels stop chamfered and V jointed	per ft. sup.	1	04
Do. do., all as last, but in six panels the set ..	per ft. sup.	1	14
2 in. deal wrought both sides square framed, panelled partition, two panels in height ..	per ft. sup.	1	04
Do. do., moulded both sides	per ft. sup.	1	24
If three panels in height, add	per ft. sup.	0	4
If raised mouldings, add	per ft. sup.	0	24
If 2½ in. deal mouldings, add	per ft. sup.	0	24
2 in. square framed sash partition, three panels high	per ft. sup.	1	44

(FURNITURE FIXTURES BLOCKS, refer to Section B. of this COMPANION.)

JOINTS (continued)—		SPACEMAN.	n. d.
1 in. clean deal treeds with rounded nothings,			
1 in. tongued, raised, glued, blocked, and	per ft. sup.	1 04	
bracketed on strong in carriages ..			
Do. do. in cross tongued windows,		1 24	
measured net			
1 1/2 in. treeds with moulded nothings, 1 in.		1 44	
tongued raised—carriages as before ..			
Do. do. in cross-tongued windows,		1 7	
measured net			
Housing and weighting ends of steps into	per No.	0 4	
siding			
Do. do. of windows		0 6	
Do. do. of steps with moulded nothings ..		0 8	
Do. do. of windows do.		0 8	
Do. do. of so. with circular ends ..		0 8	
Returned moulded nothings to ends of steps,			
including mitres		0 8	
Do. do. circular on plan		1 2	
Social brackets mitred to risers		1 0	
Do. circular on plan		2 8	
Overlaid sinking for balusters		0 2	
Proper curtail step and riser		10 3	
1 1/4 in. deal 1 in. wall string	per ft. lin.	1 0	
1 1/4 in. do. do. do.		1 8	
2 in. do. do. do.		1 6	
2 1/2 in. do. center string, framed, rebated, sunk			
and beaded		1 4	
1 1/2 in. do. do. do.		1 8	
2 in. do. do. do.		2 8	
Maze. String boards are generally			
assumed to be 12 in. wide			
Deal moulded handrail under 8 in. of sectional	per ft. lin.	1 0	
area			
Do. do. ramped		2 2	
Do. do. wreathed		4 0	
Deal moulded handrail under 12 in. of sectional			
area		1 6	
Do. do. ramped		2 8	
Do. do. wreathed		6 0	
Extra to grooving for and fitting to iron			
core		0 9	
Mixed and turned caps	per No.	2 0	
Handrail joint screws		1 0	
3 in. x 3 in. deal framed and stop cham-			
fered newel	per ft. lin.	0 8	
3 1/2 in. x 3 1/2 in. deal framed newel		0 9	
If chamfered, add		0 1	
4 in. x 4 in. octagonal newel		1 0	
Turnings to newels, from	per No.	1 0	
Turned pendant steps		1 0	
6 in. x 6 in. framed and moulded newel ..	per ft. lin.	1 2	
Turnings	per No.	2 0	
Pendulists		1 0	
6 in. x 8 in. framed, moulded and panelled			
newel	per ft. lin.	2 0	
1 in. x 1 in. square bar baluster		2 0	
1 1/2 in. x 1 1/2 in. do.		2 0	
2 in. x 2 in. do.		0 4	
Turning 1 1/2 in. balusters	per No.	0 4	
Do. 2 in. balusters		0 8	

DEAL IN THIRTEENERS.		per ft. sup.
1 in. wrought ledged flaps, hung folding ..		0 64
2 in. wrought one side matched, and V		
jointed beading in half board widths,	per sq. ft.	25 0
fixed upright as wall hangings ..		
Do. do. all as last as casings, including block-		
ings or beasers	per ft. sup.	0 64
Do. do. do. fixed circular on plan		0 42
1 in. wrought one side		0 8
Do. do. and cross-tongued		0 8
Do. do. do. and framed		0 8
Do. wrought mitre, clamped flap, and		
beaded frame		1 2
Do. wrought both sides, matched, and V		
jointed beading in half board widths ..		0 5
1 in. wrought one side and cross		
tongued		0 64

JOINTS (continued)—		n. d.
1 1/2 in. wrought one side and cross tongued, as		
beading in vent-liders including centre	per ft. sup.	0 94
bit and iron saw perforated to pattern		
Do. tongued and rounded window board		
and beasers, inc. using groove in oak ..		0 74
Do. do. all as last, and cross tongued ..		0 8
Returned mitred, notched ends	per No.	0 9
1 1/2 in. wrought one side, cross tongued shaft		
and beasers	per ft. sup.	0 74
Do. wrought one side, single rebated, and		
twice beaded Jacob ladders		0 84
Do. do. all as last, but double rebated ..		0 84
2 in. wrought both sides hung		0 74
Do. do. cross-tongued		0 84
2 1/2 in. do. do. and clamped shaft ..		1 24

RETURNING LAMBS IN DEAL.		per ft. lin.
Labour to groove		0 04
Do. throat		0 04
Do. small bead		0 04
Do. rebate to form tongue		0 04
Do. do. on spay, including groove ..		0 1
In oak		0 2
Do. do. cross-grain in short lengths ..		0 1
Do. 1 in. staff-head		0 1
Do. 1 in. do.		0 1
Do. 1 1/2 in. do.		0 1
Do. rounded bead to 2 in. door		0 2
Do. hollow to correspond		0 3
Do. grooved and tongued angle to 2 in.		0 3
Do. tongued and staff-headed angle		
to 1 in.		0 3
Do. do. do. to 2 in.		0 3
Maze—Contractors having extensive machinery often price		
labour such as the above at very low, averaging perhaps		
2d. per foot lineal or less, taking one with another.		

RETURNING ARTICLES IN DEAL.		per ft. lin.
Wrought weather fillet		0 14
Do. played closing fillet		0 14
Do. played throat weather rail		0 24
Moulded glazing bead, including mitre ..		0 14
4 in. x 1/2 in. Wrought chamfered fillet and		
beading to radius		0 1
Do. do.		0 14
4 in. x 3/4 in. Wrought fillet		0 14
Do. do. and beading to radius		0 14
Do. do.		0 14
2 in. x 1/2 in. Wrought mitred pane bead,		
molding mitres		0 1
Do. do. and beading circular		0 14
2 in. x 1 1/2 in. Wrought ash bead		0 1
Mixed angles	per No.	0 1
Steps on spay		0 1
Extra only spay cutting set for		
lightest centres	per ft. lin.	1 2
2 in. x 3/4 in. Wrought beaded door step ..		0 14
1 in. Wrought one side angle pipe casing, and		
fixing with screws to, and including		
1 1/2 in. wrought rebated beaded grounds,		
plunged to walls		0 64
1 in. x 2 in. Wrought one side tongued soffit,		
including groove		0 24
1 in. x 2 1/2 in. Beaded capping and soffit to		
brickwork	per No.	0 24
Mixed angles		0 2
Returned mitred ends		0 2
Houseings		0 24
1 in. x 2 in. Wrought one side, beaded lining	per ft. lin.	0 24
1 in. x 3/4 in. Wrought one side and grooved		
grounds		0 24
Framed angles	per No.	0 24
Do. do. all as last, and beaded		0 24
1 in. x 4 in. Wrought one side, lining tongued		
and staff-headed, including		
groove		0 24
Grooved, tongued, and mitred		
angles	per No.	0 24
1 in. x 4 1/2 in. Wrought one side, grooved		
mitre	per ft. lin.	0 3

JOINTS (continued)—

S. & L.

1 in. x 4 1/2 in. Wrought one side, staff-headed, tongued lining, including groove	per ft. lin.	0 8
Do. Do. do. circular	"	0 8 1/2
1 in. x 5 in. Wrought one side, beaded lining	"	0 8 1/2
1 in. x 5 1/2 in. Beaded capping	"	0 8 1/2
Do. Wrought one side, tongued and staff-headed lining, including groove	"	0 4 1/2
1 in. x 7 in. Wrought one side, played staff-headed facing	"	0 4 1/2
Do. Staff-headed do., and blockings	"	0 4 1/2
Do. Chamfered do.	"	0 4 1/2
Do. do. as last, in short lengths, between plate—the joints not deducted	"	0 4 1/2
1 in. x 9 in. Wrought one side, tongued and staff-headed lining, including groove	"	0 5
Do. Wrought one side, beaded casing, and blockings	"	0 5 1/2
1 in. x 10 in. Do. do. do.	"	0 5 1/2
1 in. x 11 in. Wrought one side and cross-tongued, staff-headed both edges	"	0 5 1/2
1 1/2 in. Wrought tongued and rounded mousing as window board, including groove in oak	"	0 7 1/2
1 1/2 in. x 8 in. Wrought one side, beaded lining and blocking	"	4 1/2
1 1/2 in. x 8 1/2 in. Do. do. (no blockings)	"	4
1 1/2 in. x 7 in. Wrought one side, beaded lining and blockings	"	4 1/2
Do. Wrought one side, and staff-headed lining	"	4 1/2
1 1/2 in. x 1 1/2 in. Wrought chamfered fillet	"	0 1 1/2
1 1/2 in. x 2 in. Beavers wrought, framed and twice chamfered	"	0 1 1/2
1 1/2 in. x 4 1/2 in. Wrought one side, chamfered beavers and plugging	"	0 2 1/2
1 1/2 in. x 6 in. Wrought double beaded capping	"	0 2 1/2
2 in. x 2 1/2 in. Wrought, framed, rebated, and chamfered lining	"	3 1/2
2 in. x 3 in. Wrought shifting beavers	"	0 3 1/2
2 in. x 1 in. Cavetto moulding	"	0 1 1/2
Do. do. bent circular	"	0 1 1/2
1 in. x 1 1/2 in. Moulded head, including mitred angles	"	1 1/2
1 in. x 2 1/2 in. architrave moulding, including mitred angles	"	0 1 1/2
1 in. x 3 in. Moulding	"	0 1 1/2
Do. Rounded mousing	"	0 2
Do. do. circular	"	0 2 1/2
1 in. x 4 1/2 in. Rounded mousing	"	0 0 1/2
1 1/2 in. staff-head and mitres	"	0 1 1/2
1 1/2 in. x 1 1/2 in. Moulding and do.	"	0 1 1/2
1 1/2 in. x 2 in. Do. and do.	"	0 0 1/2
1 1/2 in. x 3 in. Rounded mousing	"	0 2 1/2
Do. do. circular	"	0 1
1 in. staff-head, including mitres	"	0 1 1/2
Do. do. and bent circular	"	0 1 1/2
Do. do. and bending to radius and screwing with 3 in. screws	"	0 2
1 1/2 in. x 2 1/2 in. Moulding	"	0 2
Do. do. circular	"	0 2 1/2
1 1/2 in. x 3 in. Moulding	"	0 2 1/2
Do. Circular	"	0 3
Do. Double Cavetto	"	0 2 1/2
Do. do. circular	"	0 3
2 in. x 2 in. Moulding and mitres	"	0 3
2 in. x 3 1/2 in. Do. do. circular	"	0 3 1/2
Do. do. circular	"	0 4
2 in. x 4 in. Moulding and mitres	"	0 4
2 in. x 5 in. Do. do. circular	"	0 4 1/2
1 in. x 5 1/2 in. Do. in short lengths as brackets	"	0 4 1/2
2 in. x 4 in. Moulding and mitres	"	0 0
Do. do. circular	"	0 0

JOINTS (continued)—

NUMBERED ITEMS IN DEAL.

Grooved and tongued angles to 1/2 in. x 10 in. lining	Per No.	0 5
Do. do. to 1/2 in. x 10 in. lining	"	0 5
Do. do. to 1 in. x 11 in. lining	"	0 7
Grooved, tongued, and mitred angles to beaded lining 1 1/2 in. x 6 in.	"	0 5
Do. do. to 1 1/2 in. x 11 in.	"	0 5
Rounded corners to 1 1/2 in.	"	0 1
Do. 1 in.	"	0 1
Do. 1 1/2 in.	"	0 1 1/2
Seat holes cut and dished in 1 1/2 in.	"	2 0
Beaded handle holes	"	1 6
Extra to preparing sets of W. C. fittings as to shift easily for access	"	2 6
Attend plumber to W. C.	"	2 6
Do. / Ah	"	2 6
Do. sanitary	"	2 0
Do. sink	"	2 0
Paper box, combined with caulk-bracket	"	10 9
Beach towel-rollers and brackets	"	5 6
Do. turned clock pins	"	0 6
Sets of deal round blockings at back of architrave mouldings	"	1 0
Dresses, 7 ft. long and 7 ft. high, with 1 1/2 in. cross-tongued post-board, beavers and rise, 4 in. square framed legs, 3 in. clean deal cross tongued top 1 ft. 10 in. wide, three dovetailed drawers, black knob handles, framed and cut standard and top, wall moulded architrave, mitred round as cornice, three tiers of plate shelves with grooves, beads nailed on, large and small brass books fixed on edge of shelves	"	75 0
Beaded strips, 3 in. x 1 in. and 10 ft. long, plugged to wall for dish covers	"	2 0
1 1/2 in. copper lid in two thicknesses, pegged together, ledged, and with shaped handle	"	8 0
Small sliding door, with runner and frame plugged to wall of dachin	"	3 0
1 in. wrought cut brackets 4 in. x 6 in.	"	0 0
2 1/2 in. played blocks, 5 in. x 1 ft. 8 in. architraves	"	1 0
Cut, shaped, and chamfered brackets, 1 1/2 in. x 11 in., and plugging to wall	"	2 6
Plate-rack 8 ft. 6 in. x 3 ft.	"	20 0
Wrought and chamfered beavers to do, with ends cut and pined	"	1 0
Set of W. C. fittings in deal	"	14 0
Deal dachin, 3 ft. 6 in. x 3 ft. x 3 ft. 6 in. with slide, cover, &c., and painting complete	"	45 0
8 in. deal moulded overdoors to design, 3 ft. 6 in. x 1 ft. 6 in.	"	15 0
Deal moulded chimney pieces to design, with overmantel, do., 4 ft. 8 in. x 4 ft. 3 in. extreme	"	45 0
OAK.		
4 in. x 4 1/2 in. Wrought threshold	per ft. lin.	1 2
Do. Sill, wrought all round, framed, sunk, weathered, and check throated	"	1 3
5 in. x 4 in., all as last, and beaded	"	1 6
1 1/2 in. rough class, 5 in. x 6 in.	per No.	0 5
Do. 9 in. x 9 in.	"	0 7
Do. 10 in. x 10 in.	"	0 8
1/2 in. x 1/2 in. wainscot wrought panel head, including mitres	per ft. lin.	0 3
1 in. x 8 1/2 in. wainscot bookboard, wrought all round, and with moulded head on each edge	"	1 0
CUNA MANOANT.		
To include French polishing.		
1 in. Wrought one side, cross-tongued seat and riser	per ft. sup.	2 4

Joiners (continued)

	s. d.
1 in. Wrought wire, clamped step, and loaded frame	per ft. sup. 2 7
Labour, groove	per ft. lin. 0 1
Do. rebate	" 0 1
Do. small rounded edge	" 0 1
Do. 1 in. rounded nosing	" 0 1
1/2 in. x 4 in. Wrought case side, square skirting, including ground and backings, plugged to walls	per No. 0 8
Tongued mitred angles	per No. 0 1
Beaded corners 1/2 in.	" 0 1
Proper dished perforations in 1 in. for W. G. basins	" 1 9
Do. for handles	" 2 0
Extra to prepare sets of mahogany W. G. fittings to suit	" 2 0
1 1/2 in. Mahogany, wrought one side, and moulded, panelled enclosure for bath	per ft. sup. 6 0
1 1/2 in. Mahogany, rimmed shaped bath top (the void not deducted)	" 4 0
Labour, 1 in. staff-head and double gurnik, with tongued angle	per ft. lin. 0 4
Bath skirting. (See 3/4 in. x 4 in. W. G. do. ante.)	" 2 6
Extra to forming small door in 1 1/2 in. framing for access to bath cocks	per No. 5 0
Set of bath cradling	" 7 6
1/2 in. x 4 in. moulded handrail, and French polishing	per ft. lin. 2 8
Embs housed	per No. 2 8
Extra to price of do., hinged with brass back flaps	" 2 6

IRONMONGER.

To include all requisite screws, nails, and fixing.

Brass work to be fixed with brass screws.	
2 in. cast iron butts	per pair 0 8
1 in. Do. do.	" 1 0
3/4 in. Do. do.	" 1 2
4 in. Do. do.	" 1 6
18 in. strong cross gurnets	" 1 6
24 in. Do. do.	" 2 8
2 1/2 in. brass butts	" 1 2
Single action spring hinges for 2 in. doors, with top centres, and fully charged with oil	per No. 40 0
Do. do. but double action	" 40 0
3 in. brass lever mortice deadlock	" 12 0
4 in. improved lock	" 2 6
6 in. strong rebated mortice lock, strong brass furniture on both sides	" 11 0
6 in. best mortice two bolt lever lock, and waincoat oak bolt lock furniture both sides	" 14 0
6 in. Do. all as last, but rebated	" 15 0
6 in. iron rim two bolt knob lock, rounded e legs, oak furniture	" 10 0
7 in. Do. all as last	" 11 0
7 in. stock dead lock, brass wards	" 12 0
4 in. iron neck bolt	" 0 8
6 in. Do.	" 0 9
12 in. iron rod bolt	" 1 0
15 in. Do.	" 1 6
24 in. monkey tailed bolt	" 4 6
Bolt secured and leading in	" 1 0
12 in. brass flush bolt plate 3 in. wide	" 2 3
24 in. Do. do.	" 6 6
Set of strong iron, hooks, arms, and pulleys for opening and closing lights and glass in walls	" 7 0
Double set of do.	" 7 1
1/2 in. of do. 3 1/2 ft. from floor	" 1 0
Strong iron web centres	per pair 2 1
2 in. brass wash lifts	" 1 1
Brass wash handles	" 1 1
Brass wash fastenings for 3 in. washes	per No. 1 8
Wrought iron flush ring	" 1 8
Norfolk thumb latch	" 2 0

IRONMONGER (continued) —

	s. d.
Jacquard iron plate button	per No. 0 2
Brass	" 0 2
1 in. brass knob	" 0 3
Card frame	per doz. 7 0
Iron French easement bolts 1/2 in. rod to shoot up and down for folding easements 6 ft. 6 in. high	per set 7 6
9 in. japanned iron easement stay, book, and plate	per No. 2 0
Brass cabin hook with plate and plugging	" 2 0
Do. door catch, and letting into door	" 2 0
Do. plain door handle 6 in. long in the grip, and with solid brass back plate completed	" 2 9
Do. deep umbrella holder, to be approved with plates, and screwing shifting run and sockets	" 4 0
Waincoat oak long finger plate, including French polishing	" 1 9
Do. narrow for diminished stile	" 8 6
13 in. brass dresser hooks	per doz. 2 0
Galvanised meat hooks	" 0 8
Japanned iron barrel door chain	per No. 2 0

SLATER AND SLATE MASON

Best Penrhyn Ladies' slating, laid to a 8 in. lap, and nailed with two copper nails to each slate	per sq. ft. 50 8
Do. Countess do. do.	" 5 6
Do. Duchess do. do.	" 6 0
If zinc nails, deduct	" 2 0
If laid to 1 1/2 in. lap, deduct	" 1 8
Patent slate ridge and hip, 2 in. roll only	per ft. lin. 6 0
Do. do. 2 1/2 in. do.	" 0 8
Do. do. 3 in. do.	" 0 10
Do. do. 2 in. roll 6 in. wings	" 0 10
Do. do. 2 1/2 in. roll 7 in. wings	" 1 2
Do. do. 3 in. do.	" 1 6
Fixing with white lead and copper screws Close cut and mitred lap bedded in cement	" 0 6
Extra course of slates and cement fillet to verge	" 0 5
Mass good slating to pipe passing through roof	per No. 2 0
Leave slating clean and perfect at completion of works	per sq. ft. 1 0
1/2 in. Welsh slate and slabs, sawn out to sizes, quarry planed and fixed from	per ft. sup. 0 11
3 in. Do. do. do.	" 1 2
1 in. Do. do. do.	" 1 6
1 1/2 in. Do. do. do.	" 1 8
1 1/2 in. Do. do. do.	" 2 0
Rabbling face, add	" 0 1 1/2
Labour, groove 1 in. wide	per ft. l. n. 0 3
Do. rounded nosing, from	" 0 2
8 in. x 3 in. rabbet channel	" 4 0
Labour, hole cut and dished for grate	per No. 2 0
Do. quadrant corner to 1 in. slate	" 1 0

TILER.

Plain tiles on double fir batts, and wrought nails showing on the face 8 in.	per sq. ft. 50 0
Do. do. showing 3 1/2 in.	" 45 0
If with oak batts, add	" 40 0
Cutting and waste in tiling	per ft. lin. 0 4
Circular do.	" 0 5
Double course of tiles at eaves	" 0 4
Do. plain tile heading, and pointing in cement to verge	" 0 4
Hip tiles, purpose made, to fit rake of roof, and bonded in with the other tiling	" 1 6
Valley lines	" 1 6

TILES (continued)—

Red ridge tiling	per ft. sq.	1 4
Do. bedded in lime and hair, and jointed and pointed in cement ..	"	1 9
Tile finish, p.e. 7s. 6d. each ..	per No.	2 0
Wrought iron ornamental hip hooks ..	"	1 0
Pan tiling, laid dry, 10 in. gauge ..	per sq. ft.	2 0
Do. bedded in hair and mortar ..	"	2 0
Old pan-tiling stripped, new laid, and re-tiled, dry, allowing 30 new tiles to a square ..	"	20 0
Do. do. allowing 100 new tiles per square ..	"	26 0
Flats of two courses of plain tiles, bedded in Portland cement ..	"	45 0
Do. three courses do. ..	"	65 0
Rendering surface with Portland cement to current ..	per yd. sup.	2 0

MEMO.—For illustration of Roof, Floor, and Wall Tiles of various descriptions, refer to Section A. of the Compendium.

FOUNDER AND SMITH.

CAST IRON.

All to be the best grey metal, cast at such foundry as the architect may approve.

All castings inclusive of the regular patterns.

To include also proving any of the ironwork that the architect may so require; also all tooling.

Metal in plain corbels, shoes and heads..

Do. in hollow columns, with base and cap plates, caps, neckings, and moulded caps

Do. in heavy area gratings

Do. in light

Do. in moulded cantilevers

Do. in mesh weights

2 in. diameter round rain pipe, including nuts and plugs

Downspout 4 in. projection

4 in. x 4 in. square rain pipe, including bands, ears, plugs, and nuts ..

Extra, to plumb heads

Flat back, moulded heads

Extra, to junction for 2 in. round pipe ..

Moulded eaves, guttering 4 in. x 4 in., and 2 in. thick, with socket joints, put together with red lead, and oil cement, and screwing to fascia ..

Stopped ends

Angles

Outlets, cast on

Do. all as last, but 6 in. x 4 in. ..

Stopped ends

Outlets cast on

Holes cast in and cleaned out, through 1 1/2 in. metal for bolts

Do. through 1 1/2 in.

Downsinking base cast plate, 16 in. diameter, with protecting ring for paving, chains, hump, and staple ..

Hot - and - Miss ventilating grating, 12 in. x 6 in., and letting into wood ..

Reid standard scraper, to be selected, and letting into stone, and running with lead

Flint gravel, 3 ft. long, with long screw, nut, and plate

Plain ornamental do. do.

Ornamental fourways final, 6 ft. 6 in. high above stone, of design to be selected, and with long rod, let into stone, and run on lead

Air brick, 3 in. x 6 in., and setting in walls, and forming channels

FOUNDER AND SMITH (continued)—

WROUGHT IRON

The wrought and rolled iron to be the toughest and best quality.

Metal, in rolled iron plates

Do. in chimneys and bearing bars, numbered and caulked

Do. in taking and forged angle plates ..

Do. in rods, plates, bands, nuts, washers, and forged straps

Do. in half-round handrails, and round and square twisted baluster, including forging to ramps, and framing together

Do. in galvanized water bar, and bedding in white lead

1 in. gas tubing, as handrail, including screw joints, forged ramps, and handrail brackets, securely screwed

Forged ends

Drillings in 3 in. rolled iron

Do. 1/2 in. do.

Do. 1 in. do.

Cutting and fitting ends of 6 in. x 12 in. rolled iron plate to sides of similar do.

Ends of 1/2 in. rod, forged, drilled, counter-sunk, and screwed

Do. of 1/2 in. do.

Forging ends of 3 in. x 1/2 in. strap to pattern

Tapping ends of 1/2 in. rod

Do. 1 1/2 in. do.

Boared ends to handrails

Dowels and white lead bed

Hip books and screwing

Galvanized wire bird gratings

3 in. screw bolts, average 12 in. long with nuts, heads, and washers

1 in. do. do.

3 in. x 3 in. coach screws, including drill, nut and tapping

Strong 6 iron, 18 in. x 12 in., with angle webs and screwing

1 in. x 1 in. standbolts to screw down ..

Ornamental heads to ditto with leaves rivetted on at sides

3 in. x 1 in. saddle bars

Forged eyes in ditto for in. 1 x 1 in. standbolts

Cast and wrought iron circular stairroves, 2 ft. 6 in. diameter, with centre rod and base plate screwed to wood; also steps, landings, newels, balusters, handrails, &c., in the usual way complete

MEMO.—For stoves, grates, open and close fire-places, show combustion, ventilating grates, &c. chimneys, as also for chimney pipes, and other fire-place fittings, refer to Sections D, G, H, and I, of the Compendium, where numerous examples and quotations of prices will be found.

For stable fittings, refer similarly to Section H & J.

For iron fireproof doors and frames, refer to Sections H, and J.

PAVING.

Paving of hard grey stone, laid flat in sand and jointed

Do. do. in mortar

Paving as last, but laid on edge in sand ..

Do. do. in mortar

Do. do. in cement

Paving of Russian pavings, laid flat in sand ..

Do. do. in mortar

Do. do. in cement

Paving as last, but laid on edge in sand ..

Do. do. in mortar

Do. do. in cement

ZINC WORK (continued)—

zinc nailing	per ft. lin.	0 1
zinc proper roll cap	per No.	0 1 1/2
Bressed ends to do.	per No.	0 2
Secret tanks	per No.	0 4
Bressed and soldered angles under 4 in. high	per ft. lin.	0 5
3 in. half-round eaves guttering	per ft. lin.	0 5 1/2
4 in. do.	per ft. lin.	0 6
3 in. Ogee	per ft. lin.	0 6
4 in. do.	per ft. lin.	0 8
2 in. round rain pipe	per ft. lin.	0 6
3 1/2 in. do.	per ft. lin.	0 6 1/2
3 in. do.	per ft. lin.	0 8
4 in. do.	per ft. lin.	0 8 1/2
3 in. octagonal rain water head	per No.	5 8
4 in. do.	per No.	6 6
3 in. shoes	per No.	1 6
4 in. do.	per No.	2 4

BELLHANGER.

Ordinary house bells, with cranks, copper wire, brass plate, spring carriage, etc., from	per bell	14 0
Electric bells, do.	per bell	25 0
Automatic bells, do.	per bell	25 0

PLASTERING.

All laths for plasterer's work to be bath-and-a-half, ends not overlapping but lapped, joints frequently broken, nailed at both ends with wrought iron galvanised nails.

The lime for plastering to be best chalk lime, sand to be clean and sharp, and with proper proportion of clean hair.

EXTERNAL WORK.

Render and rough coat on brick with	per yd. sup.	1 4
Dorking lime	per yd. sup.	1 8
Do.	per yd. sup.	2 6
Trowelled as last on lath	per ft. sup.	1 6
Moulded work	per ft. lin.	0 1 1/2
Arrie	per ft. lin.	0 1 1/2

INTERNAL WORK.

Rough render and coat on brick	per yd. sup.	0 6
Render one coat and set	per yd. sup.	0 8
Render, float, and set	per yd. sup.	0 11
If circular, add	per yd. sup.	0 3
Lathing only with lath and half	per yd. sup.	0 9
Lath plaster, one coat and set	per yd. sup.	1 8
Lath plaster, float and set partitions	per yd. sup.	1 6
Do.	per yd. sup.	1 7
If last coat is finished bastard stucco, add	per yd. sup.	0 4 1/2
If trowelled stucco, smooth for peice, add	per yd. sup.	0 3
Gouging with plaster each coat, add	per yd. sup.	0 3
Do. with cement, add	per yd. sup.	0 3 1/2
Setting with gauged putty, add	per yd. sup.	2 6
Lath plaster, float, set, serving scotches of stucco per ft. sup	per ft. lin.	0 1 1/2
Plain plaster moulding under 6 in. girt, per inch of girth	per ft. lin.	0 1 1/2
Do.	per ft. lin.	0 1
If on lath, add	per ft. lin.	0 1
Do.	per ft. lin.	0 1 1/2
Plain plaster quirk	per ft. lin.	0 3
Do.	per ft. lin.	0 3
1 1/2 in. plaster, staff-head and double quirk	per No.	0 2
Stopped ends	per No.	0 5
Make good plastering round roof corbels	per No.	0 5
Do. to chimney pieces	per ft. lin.	0 3
1 in. stucco staff-head and double quirk	per No.	0 3
Mitres	per No.	0 3
Stucco reveal 4 1/2 in. wide on brick, including 1 in. staff-head and double quirk	per ft. lin.	0 6
Do. as last to 10 in. reveal, the staff-head	per ft. lin.	0 8 1/2
1 1/2 in. do.	per ft. lin.	0 11
Do.	per ft. lin.	0 8
Mitres	per No.	0 8
Stoppings	per No.	0 4

PLASTERER (continued)—

PORTLAND CEMENT.

Rough rendering on brick	per yd. sup.	1 8
Flashed bed for paving	per yd. sup.	1 8
Plain face on brick	per ft. sup.	2 8
Do. in narrow widths	per ft. sup.	0 3
Do. circular	per ft. sup.	0 3
Plain weathering	per ft. lin.	0 3
Do. hearth	per yd. sup.	2 8
Do. face as paving 1 in. thick	per yd. sup.	2 2
Do. do. to current	per yd. sup.	2 2
Extra to outfit	per No.	0 3
Arrie	per ft. lin.	0 1 1/2
Do. and 1 in. return	per ft. lin.	0 1
Throat	per ft. lin.	0 1 1/2
Margin 2 in. wide	per ft. lin.	0 1
Do. 6 in. wide, including two arries and	per ft. lin.	0 2 1/2
Weathering 4 1/2 in. projection	per No.	0 2
Do. mitres	per No.	0 1
Do. stoppings	per ft. lin.	0 1 1/2
Do. 8 in. projection	per ft. lin.	0 1 1/2
Do. 8 in. projection, including 1 in. return and arrie	per ft. lin.	0 1
Do. do. circular	per ft. lin.	0 2
1 1/2 in. staff-head and double quirk	per ft. lin.	0 4
Do. circular	per ft. lin.	0 4
Do. mitres	per No.	0 4
Do. stoppings	per No.	0 2
1 1/2 in. staff-head and double quirk, part on rake, including ramps	per ft. lin.	0 4
Do. circular	per ft. lin.	0 4
Do. mitres	per No.	0 4
Do. stoppings	per No.	0 2
Roll 9 in. diameter and abutting	per ft. lin.	0 4
Do. fair ends	per ft. lin.	0 2
Moulding 3 in. girt	per ft. lin.	1 1
Do. stoppings on play	per No.	0 1
External mitres to 20 in. weathering	per No.	1 1
Internal do.	per No.	1 4
Stoppings	per No.	0 0
Do. on play	per No.	1 0
Rustic grooves V shaped	per ft. lin.	0 4
Do. square sunk	per ft. lin.	0 4
Do. moulded	per ft. lin.	0 6

KIEK'S CEMENT.

Ordinary quality, including Portland cement ground	per yd. sup.	2 6
Trowelled plain face on brick	per yd. sup.	2 6
Do. on lath and half	per yd. sup.	3 3
Do. on brick in panels	per ft. sup.	0 1 1/2
Do. on lath	per ft. lin.	0 1
Arrie	per ft. lin.	0 1
Rounded	per ft. lin.	0 2
Angle 5 in. girt, and slightly chamfered	per ft. lin.	0 3 1/2
Do. arrie	per ft. lin.	0 3 1/2
Moulding 3 in. girt and under	per ft. lin.	0 1 1/2
Do. 6 in. girt per inch of girth	per ft. lin.	0 1 1/2
Skirting 3 in. high with moulding 3 in. girt	per ft. lin.	0 7
Mitred angles	per No.	0 7
Stopped ends	per No.	0 4

FARMER CEMENT.

Including Portland cement ground	per yd. sup.	2 6
Trowelled plain face on brick	per yd. sup.	2 6
Do. on lath and half	per yd. sup.	3 3
Do. on brick in panels	per ft. sup.	0 1 1/2
Do. on lath	per ft. lin.	0 1
Arrie	per ft. lin.	0 1
Rounded	per ft. lin.	0 2
Angle 5 in. girt, and slightly chamfered	per ft. lin.	0 3 1/2
Do. arrie	per ft. lin.	0 3 1/2
Moulding 3 in. girt and under	per ft. lin.	0 1 1/2
Do. 6 in. girt per inch of girth	per ft. lin.	0 1 1/2
Skirting 3 in. high with moulding 3 in. girt	per ft. lin.	0 7
Mitred angles	per No.	0 7
Stopped ends	per No.	0 4

GLAZIER.

All glass to be of best glazing quality, free from all blemishes, neatly putted and back putted, where required.

10 sq. sheet, not exceeding 6 ft. sup.	per ft. sup.	1 1
21 sq. do.	per ft. sup.	1 2
26 sq. do.	per ft. sup.	1 4 1/2
32 sq. do.	per ft. sup.	1 6

GLASS (continued)—			s. d.
British polished plate, best glazing quality			
in squares not exceeding 3 ft. sup. . .		per ft. sup.	2 8
Do. do.	12 ft. sup. . .	"	2 6
Do. do.	24 ft. sup. . .	"	2 8
Do. do.	50 ft. sup. . .	"	8 0
Rough cast plate glass, in squares not exceeding 3 ft. sup. and $\frac{1}{2}$ in. thick . .			
Do. do.	$\frac{1}{2}$ in. thick . .	"	0 11
Do. do.	$\frac{3}{4}$ in. thick . .	"	1 0
Do. do.	$\frac{1}{2}$ in. thick . .	"	8 5
Do. do.	$\frac{1}{2}$ in. thick . .	"	4 2
Patented rolled rough plate small frosted glass, $\frac{1}{2}$ in. thick, in squares not exceeding 4 ft. sup. . .			
Do. sup.	and glazing in and including wash	"	0 5 $\frac{1}{2}$
Do. sup.	and glazing in and including wash	"	0 0
Do. sup.	and glazing in and including wash	"	0 0
Do. sup.	and glazing in and including wash	"	0 4
Do. sup.	and glazing in and including wash	"	0 0
Do. sup.	and glazing in and including wash	"	0 0
Do. sup.	and glazing in and including wash	"	0 0
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Do. sup.	and glazing in and including wash	"	0 0

PAINTER.

The materials for painting and staining, &c., to be of the best quality, best old genuine white lead, pure linseed oil, copal varnish.

The painting to include properly knotting, stopping, rubbing down and priming all the woodwork where for painting, and preparing where for staining, also metal and other work.

The number of coats specified in addition to the priming coat.

Twice whiten on new work ..	per yd. sup.	0 2
Once distemper, common colors ..	"	0 2
Twice do. do. ..	"	0 2
Plain painting to woodwork once in oil ..	"	0 8
Do. do. twice ..	"	0 4
Do. do. three times ..	"	0 9
Do. do. four times ..	"	0 11

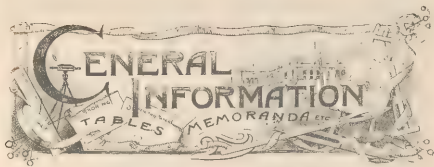
PAINTER (continued)—

Plas. painting to iron, once ..	..	per yd. sup.	0 5 $\frac{1}{2}$
Do. do. twice ..	..	"	0 6
Do. do. three times ..	..	"	0 8
Do. do. four times ..	..	"	0 10 $\frac{1}{2}$
Extra distilling coat, add ..	..	"	0 3
Extra coats above four, per coat ..	..	"	0 2
Extra for painting in party colour ..	..	"	0 3
Bar rod and strap, once in oil ..	..	per ft. lin.	0 0 $\frac{1}{2}$
Do. do. twice ..	..	"	0 0 $\frac{1}{2}$
Do. do. three times ..	..	"	0 1 $\frac{1}{2}$
Do. do. four times ..	..	"	0 1 $\frac{1}{2}$
Skirtings and widths under 13 in., once ..	..	"	0 1
Do. do. twice ..	..	"	0 1 $\frac{1}{2}$
Do. do. three times ..	..	"	0 2
Do. do. four times ..	..	"	0 2 $\frac{1}{2}$
Frames, both sides, four times in oil ..	..	per No.	3 9
Large do. do. ..	..	"	3 6
Squares, both sides do. ..	..	per doz.	3 6
Large do. do. ..	..	"	3 6
Light, of varying sizes do. do. ..	..	per No.	2 0
Do. as laid, and including edges, four times in oil ..	..	"	2 5
Iron bolts and corbels, four times in oil ..	..	"	0 2
Roll water heads do. ..	..	"	0 4
Coal plates do. ..	..	"	0 4
Wall scrapers do. ..	..	"	0 8
Standard scrapers do. ..	..	"	1 0
1. Irons do. ..	..	"	0 1
Stoves blacked ..	..	"	0 8
Ranges do. ..	..	"	0 9
Kitchen dresser, four oaks ..	..	"	10 0
Chimney piece do. .. (from)	..	"	4 0
Stair, size, and once varnish ..	..	per yd. sup.	0 9
Do. twice do. ..	..	"	1 1
Do. do. 3 in. staining ..	..	per ft. lin.	0 2
Extra grain, imitation walnut ..	..	per yd. sup.	1 6
Varnish once in copal ..	..	"	0 6
Do. twice do. ..	..	"	1 10

PAPERHANGER.

Preparing walls, panelling, and slasing ..	per piece	8 7
Best white lining paper ..	"	1 6
Extra for hanging ..	"	0 9
Hanging only to ordinary pattern papers, (from) ..	"	0 0

The prices of paperhangings vary so greatly according to quality and description, that quotations here would serve no purpose, but in Section M. of the Compendium, "Wall and Ceiling Coverings," will be found numerous samples and quotations of prices.



ARCHITECTS' CHARGES.*

SCHEDULE FOR PROFESSIONAL PRACTICE AND CHARGES OF ARCHITECTS.

Published under the sanction of the Royal Institute of British Architects, and confirmed at a General Conference of Architects of the United Kingdom, 1873.

1. The usual remuneration for an architect's service, except as hereafter mentioned, is a commission of 5 per cent. on the total cost of the works executed from his designs, besides which all travelling and other incidental expenses incurred by the architect are paid by the employer, who may be also charged for time occupied in travelling if the work be executed at a considerable or inconvenient distance, or if more than ordinary personal attendance is required.
2. But for all works in which the expenditure is mainly for skilled labour and not for materials, e.g., in designs for the fittings and furniture of buildings, for their decoration with painting or mosaic, for their sculptures, for stained glass, and other like works, the architect's charge is not made by way of commission on the cost, but should be regulated by special circumstances and conditions.
3. When several similar but distinct buildings are erected as the same time from a single specification and one set of drawings and under one contract, the commission of 5 per cent. should be charged on the cost of one such building, and a modified arrangement should be made in respect of the others.
4. In works of total value, say £5000 or upwards, 5 per cent. is not remunerative, and the charge should be by time or by an ascending scale, reaching 10 per cent. for works under £100.
5. The commission is reckoned upon the total cost of the works, valued as if executed by a builder, and of new materials. 2½ per cent. is charged upon any works originally included in the contract, but subsequently omitted in execution. This is exclusive of the charge for measuring extras and omissions.
6. The architect is entitled during the progress of the building to payment on account at the rate of 5 per cent. on the instalments paid to the builder, or otherwise to half the commission on the signing of the contract or the commencement of the works, and the remainder by instalments as above. N.B.—The terms of payment adopted by Her Majesty's Office of Works and Public Buildings may also be taken as an equitable method of payment on account, viz.:—One-third part of the commission shall be paid to the architect immediately after the signing of the contract;

one-third part shall be paid to the architect as soon as one-half of the contract sum has been paid to the builder; and the remaining one-third part shall be paid to the architect after the final payment to the builder.

7. The above charges do not cover professional services in connection with negotiations for site, in surveying it and taking levels, in making surveys and plans of buildings to be altered, in arrangements respecting party walls or right of lights, nor services incidental to arrangements consequent upon the failure of builders whilst carrying out work, or in cases of subsequent litigation; but all such services are charged for in addition.

8. If the employer, after having agreed to a design and had the contract drawings prepared, should have material alterations made, whether before or after the contract is prepared, an extra charge should be made, unless such alterations are required necessary by an unreasonable excess in the builder's tender beyond the architect's approximate estimate.

9. If the architect should have drawn out the approved design complete, with plans, elevations, sections and specification, the charge is half the commission upon the estimated cost. If it should, in addition, have procured tenders in accordance with the instruction of his employer, the charge is one-half per cent. extra.

10. For works in the alteration of premises, a special charge may be made on account of the special difficulties and trouble generally involved.

11. The following are the professional services included in the ordinary charge of 5 per cent.:—The requisite preliminary sketches, drawings, and specifications sufficient for an estimate and contract. Detailed drawings and instructions for execution. One set of tracings and duplicate specification. General superintendence of works (exclusive of clerk of the works). Examining and passing the accounts, exclusive of measuring and making out extras and omissions.

12. No additional remuneration is due for making an approximate estimate, such as may be obtained, for instance, by cubing out the contents. If a detailed estimate be required by the employer, an additional percentage charge may be made.

13. The charge per day made by architects depends upon their professional position, the minimum charge being three guineas per day.

14. The above payments alluded to in this document are to be made by the employer to the architect, who is not to receive commission or payment of any kind from the builder, or any tradesman, in respect of works executed under the architect's direction.

15. When an architect supplies builders with quantities, on which to form tenders for executing his designs, he should do so

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with the concurrence of his employer, and it is desirable, when practicable, that the architect should be paid by him rather than by the builder, the cost of such extra labour not being included in the commission of 5 per cent.

18. In respect of the ownership of drawings and specifications, it has hitherto been the general custom for the architect to be paid for their use only: those documents remaining his property. N.B.—In case of sketches for work abandoned, this custom is recognized by the office of Her Majesty's Works and Public Buildings. No authoritative decision in the Courts of Law has, however, as yet been given on the subject: it is, therefore, desirable for the present, at least, that the architect should have a distinct understanding with his employer on this point.

17. The charge for taking a plan of an estate, laying it out, and arranging for building upon it, should be regulated by the time, skill and trouble involved.

18. For actually letting the several plots (in ordinary cases) a sum not exceeding a whole year's ground rent may be charged.

19. For respecting the whole year's ground rent may be charged. 18. For respecting the whole year's ground rent may be charged. 19. For respecting the whole year's ground rent may be charged. 18. For respecting the whole year's ground rent may be charged. 19. For respecting the whole year's ground rent may be charged.

20. All the above fees to be exclusive of travelling expenses, and the time occupied in travelling, as before mentioned.

21. The charge for the above does not include the commission for preparing specification, directing, superintending, and certifying the proper formation of roads, fences, and other works executed at the cost of the employer, nor for putting the plans up to the leases.

22. The following definite charges are recognised for valuation of property:—The charge throughout is one per cent. on the first £1,000, and half per cent. on the remainder up to £10,000. Below £1,000 and beyond £10,000 by special arrangement. These charges do not include travelling expenses, nor attendance before juries, arbitrators, &c.

23. The charge for estimating dilapidations is 5 per cent. on the estimate, and in no case less than two guineas.

ASPHALTES.

Asphalt requires to be laid on a good bed of concrete, and to spread in a liquid state and rubbed to a smooth surface; or it is ground to powder, spread, and consolidated by ramming.

The bed for receiving asphalt must be thoroughly dry, and where it is to be attached to sloping or vertical faces the ground should be rough and a good key provided.

The most valuable deposits of asphaltic stone are in the Val de Travers, Canton de Neuchâtel; in the neighbourhood of Seyssel, department of Ain; at Buzelbroun, in Alsace; Lomax, near the City of Hanover, and Hols in Duxemburg, in Holstein, &c.

BRICKWORK.

8 to 10 bricks per 1000. Weight per 1000. London Stocks 8 1/2 x 4 1/2 x 2 1/2 inches = 68. lbs. = 602 lbs. Red Kils 8 1/2 x 4 1/2 x 2 1/2 " = 70 " " 63 " Welsh Fire Bricks 9 x 4 1/2 x 2 1/2 " = 80 " " 72 " Paving Bricks 9 x 4 1/2 x 2 1/2 " = 80 " " 72 " Dutch Clinkers 6 1/2 x 3 x 1 1/2 " = 15 " " 14 "

The thickness of walls is regulated by the size of the bricks, and walls are 4 1/2 inch or half-brick thick, 8 inches or one brick thick, 14 inches or one and a half bricks thick. The standard thickness of reduced brickwork is 14 inches or one and a half bricks.

One rod of brickwork equals 276 ft. super of reduced brickwork; or 408 ft. super of one brick walling; or 306 ft. cube of brickwork (viz., 226 ft. of bricks and 71 ft. of mortar), or 11 1/2 cubic yards; and requires 1 cubic yard of stone lime and 2 1/2 yards of sand; or 1 1/2 yards of chalk lime and 3 yards of drift; or 36 bushels of cement and 36 bushels of sharp sand; and takes 4,300 bricks, or 4,600 place bricks, or 6,370 stock bricks laid dry, or 4,960 stock bricks laid dry in wells and circular cesspools; it weighs about 16 tons, and requires about 120 gallons of water to mix the mortar.

CEMENTS.

See *Limes, Cements, &c.*

CHAINS, BREAKING WEIGHT OF.

To find the breaking weight in tons, divide the square of the diameter of one bar of the chain in 16ths of an inch by 10 luted chains, and by 11 for studded chains.

Safe Working Load of Chains: 1/4th breaking weight

Lined.				Studded.			
Diam. of Link.	Safe load.	Diam. of Link.	Safe load.	Diam. of Link.	Safe load.	Diam. of Link.	Safe load.
Ins.	Tons.	Ins.	Tons.	Ins.	Tons.	Ins.	Tons.
1 1/2	1 1/2	2 1/2	2 1/2	3 1/2	3 1/2	4 1/2	4 1/2
2 1/2	2 1/2	3 1/2	3 1/2	4 1/2	4 1/2	5 1/2	5 1/2
3 1/2	3 1/2	4 1/2	4 1/2	5 1/2	5 1/2	6 1/2	6 1/2
4 1/2	4 1/2	5 1/2	5 1/2	6 1/2	6 1/2	7 1/2	7 1/2
5 1/2	5 1/2	6 1/2	6 1/2	7 1/2	7 1/2	8 1/2	8 1/2
6 1/2	6 1/2	7 1/2	7 1/2	8 1/2	8 1/2	9 1/2	9 1/2
7 1/2	7 1/2	8 1/2	8 1/2	9 1/2	9 1/2	10 1/2	10 1/2
8 1/2	8 1/2	9 1/2	9 1/2	10 1/2	10 1/2	11 1/2	11 1/2
9 1/2	9 1/2	10 1/2	10 1/2	11 1/2	11 1/2	12 1/2	12 1/2
10 1/2	10 1/2	11 1/2	11 1/2	12 1/2	12 1/2	13 1/2	13 1/2
11 1/2	11 1/2	12 1/2	12 1/2	13 1/2	13 1/2	14 1/2	14 1/2
12 1/2	12 1/2	13 1/2	13 1/2	14 1/2	14 1/2	15 1/2	15 1/2
13 1/2	13 1/2	14 1/2	14 1/2	15 1/2	15 1/2	16 1/2	16 1/2
14 1/2	14 1/2	15 1/2	15 1/2	16 1/2	16 1/2	17 1/2	17 1/2
15 1/2	15 1/2	16 1/2	16 1/2	17 1/2	17 1/2	18 1/2	18 1/2
16 1/2	16 1/2	17 1/2	17 1/2	18 1/2	18 1/2	19 1/2	19 1/2
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19 1/2	19 1/2	20 1/2	20 1/2	21 1/2	21 1/2	22 1/2	22 1/2
20 1/2	20 1/2	21 1/2	21 1/2	22 1/2	22 1/2	23 1/2	23 1/2
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22 1/2	22 1/2	23 1/2	23 1/2	24 1/2	24 1/2	25 1/2	25 1/2
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28 1/2	28 1/2	29 1/2	29 1/2	30 1/2	30 1/2	31 1/2	31 1/2
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GENERAL INFORMATION.

625

DISTRICT SURVEYORS.

[illegible]

G. ASTON & SON,

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EAGLE WHARF ROAD, NEW NORTH ROAD,
LONDON, N.,

Telephone, 607.

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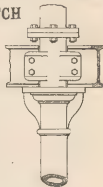
We have on our Wharf
a Large Stock of STEEL JOISTS,
CHANNELS, ANGLES, TEES, & FLITCH
PLATES for prompt delivery.



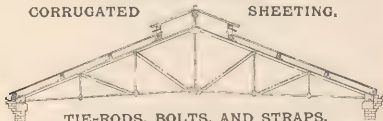
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OUR OWN Foundry in London.

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" Smith's Shops, &c. "



WROUGHT IRON ROOF PRINCIPALS AND
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TIE-RODS, BOLTS, AND STRAPS.



LATTICE GIRDERS.



G. ASTON & SON,
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EAGLE WHARF ROAD, NEW NORTH ROAD,
LONDON, N.



DORMAN, LONG & CO., LTD., STEEL MANUFACTURERS, MIDDLESBROUGH,

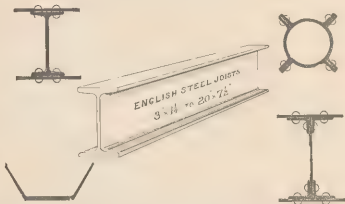
AND

19, VICTORIA STREET, WESTMINSTER.
STOCK YARD, NINE ELMS LANE. S.W.

GIRDERS, CHANNELS, ANGLES, TEES, FLATS, ROUNDS,
SQUARES, BARS, BULBS, RAILS & SPECIAL SECTIONS.

MAKERS OF

Riveted Steel Plate and Compound Girders,
Stanchions, Etc.



ALL OUR STEEL IS MANUFACTURED BY THE "SIEGENS-MARTIN" PROCESS, AND HAS A TENSILE STRENGTH
OF 28 TO 32 TONS ON THE SQUARE INCH.

BOOKS OF SECTIONS & OTHER INFORMATION CAN BE OBTAINED ON APPLICATION.

TABLE OF SAFE LOADS, See next Page.

DORMAN, LONG & CO., LTD.,
MIDDLESBROUGH.

AND

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STOCK YARD, NINE ELMS LANE, S.W.

Table of Strengths of Rolled Steel Joists and Compound Girders.

[illegible]

N.B. By dividing the Loads that a foot will carry by the number of feet clear span the actual Distributed Load is at once obtained.

JOISTS AND COMPOUNDS SHOULD NOT BE SELECTED HAVING A DEPTH LESS THAN ONE-TWENTIETH OF THE SPAN.

DREW-BEAR, PERKS & CO.,

71a, QUEEN VICTORIA STREET,
LONDON, E.C.

IRON & STEEL

JOISTS,

FLITCHES,

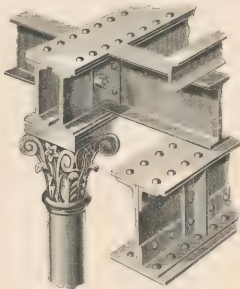
Angles,

Tees, and

Channels.

RIVETTED

GIRDERS.



**ROOFS,
BRIDGES.**

Columns
AND
Stanchions.

**TANKS,
SASHES.**

WORKS & STORES -

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ENGINEERS,

Steel & Iron Contractors & Manufacturers,

Have always a LARGE STOCK of

ROLLED STEEL JOISTS

OF THE FOLLOWING SECTIONS:—

3½ inch x 1½ inch.	5 inch x 4½ inch.	8 inch x 5 inch.	12 inch x 5 inch.
3 " x 3 "	6½ " x 2 "	8 " x 6 "	12 " x 6 "
4 " x 2 "	6½ " x 3 "	9 " x 4 "	14 " x 5½ "
4 " x 3 "	6 " x 5 "	10 " x 5 "	15 " x 5½ "
4½ " x 1½ "	7 " x 4 "	10 " x 6 "	15½ " x 6½ "
5 " x 3 "	8 " x 4 "		

COMPOUND GIRDERS

Made of Stock Sections of JOISTS and PLATES at a few hours' notice.

STEEL & IRON
ANGLES, TEES,
STANCHEONS,



CHANNELS AND
FLITCHES,
COLUMNS.

IRON DOORS AND SASHES.

FIRE-PROOF FLOORING.

Designs and Estimates for Constructional Iron and Steel Work.

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LONDON.

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Telephone No 1578

ARCH. COM. L L

Cast Iron Columns.

Table of safe loads at about 1-10th breaking weight in Tons and Cwts.
Ends flat and fixed.

HOLLOW COLUMNS.											SOLID COLUMNS.										
Length in Feet.											Length in Feet.										
Diameter of Column in inches.	6	8	10	12	14	16	18	20	25		Diameter of Column in inches.	8	10	12	14	16	18	20			
3	5.6	7.6	9.6	11.6	13.6	15.6	17.6	19.6	21.6	13	7.6	9.6	11.6	13.6	15.6	17.6	19.6	21.6	13		
4	6.1	8.1	10.1	12.1	14.1	16.1	18.1	20.1	22.1	14	8.1	10.1	12.1	14.1	16.1	18.1	20.1	22.1	14		
5	6.6	8.6	10.6	12.6	14.6	16.6	18.6	20.6	22.6	15	8.6	10.6	12.6	14.6	16.6	18.6	20.6	22.6	15		
6	7.1	9.1	11.1	13.1	15.1	17.1	19.1	21.1	23.1	16	9.1	11.1	13.1	15.1	17.1	19.1	21.1	23.1	16		
7	7.6	9.6	11.6	13.6	15.6	17.6	19.6	21.6	23.6	17	9.6	11.6	13.6	15.6	17.6	19.6	21.6	23.6	17		
8	8.1	10.1	12.1	14.1	16.1	18.1	20.1	22.1	24.1	18	10.1	12.1	14.1	16.1	18.1	20.1	22.1	24.1	18		
9	8.6	10.6	12.6	14.6	16.6	18.6	20.6	22.6	24.6	19	10.6	12.6	14.6	16.6	18.6	20.6	22.6	24.6	19		
10	9.1	11.1	13.1	15.1	17.1	19.1	21.1	23.1	25.1	20	11.1	13.1	15.1	17.1	19.1	21.1	23.1	25.1	20		
11	9.6	11.6	13.6	15.6	17.6	19.6	21.6	23.6	25.6	21	11.6	13.6	15.6	17.6	19.6	21.6	23.6	25.6	21		
12	10.1	12.1	14.1	16.1	18.1	20.1	22.1	24.1	26.1	22	12.1	14.1	16.1	18.1	20.1	22.1	24.1	26.1	22		
13	10.6	12.6	14.6	16.6	18.6	20.6	22.6	24.6	26.6	23	12.6	14.6	16.6	18.6	20.6	22.6	24.6	26.6	23		
14	11.1	13.1	15.1	17.1	19.1	21.1	23.1	25.1	27.1	24	13.1	15.1	17.1	19.1	21.1	23.1	25.1	27.1	24		
15	11.6	13.6	15.6	17.6	19.6	21.6	23.6	25.6	27.6	25	13.6	15.6	17.6	19.6	21.6	23.6	25.6	27.6	25		
16	12.1	14.1	16.1	18.1	20.1	22.1	24.1	26.1	28.1	26	14.1	16.1	18.1	20.1	22.1	24.1	26.1	28.1	26		
17	12.6	14.6	16.6	18.6	20.6	22.6	24.6	26.6	28.6	27	14.6	16.6	18.6	20.6	22.6	24.6	26.6	28.6	27		
18	13.1	15.1	17.1	19.1	21.1	23.1	25.1	27.1	29.1	28	15.1	17.1	19.1	21.1	23.1	25.1	27.1	29.1	28		
19	13.6	15.6	17.6	19.6	21.6	23.6	25.6	27.6	29.6	29	15.6	17.6	19.6	21.6	23.6	25.6	27.6	29.6	29		
20	14.1	16.1	18.1	20.1	22.1	24.1	26.1	28.1	30.1	30	16.1	18.1	20.1	22.1	24.1	26.1	28.1	30.1	30		
21	14.6	16.6	18.6	20.6	22.6	24.6	26.6	28.6	30.6	31	16.6	18.6	20.6	22.6	24.6	26.6	28.6	30.6	31		
22	15.1	17.1	19.1	21.1	23.1	25.1	27.1	29.1	31.1	32	17.1	19.1	21.1	23.1	25.1	27.1	29.1	31.1	32		
23	15.6	17.6	19.6	21.6	23.6	25.6	27.6	29.6	31.6	33	17.6	19.6	21.6	23.6	25.6	27.6	29.6	31.6	33		
24	16.1	18.1	20.1	22.1	24.1	26.1	28.1	30.1	32.1	34	18.1	20.1	22.1	24.1	26.1	28.1	30.1	32.1	34		
25	16.6	18.6	20.6	22.6	24.6	26.6	28.6	30.6	32.6	35	18.6	20.6	22.6	24.6	26.6	28.6	30.6	32.6	35		
26	17.1	19.1	21.1	23.1	25.1	27.1	29.1	31.1	33.1	36	19.1	21.1	23.1	25.1	27.1	29.1	31.1	33.1	36		
27	17.6	19.6	21.6	23.6	25.6	27.6	29.6	31.6	33.6	37	19.6	21.6	23.6	25.6	27.6	29.6	31.6	33.6	37		
28	18.1	20.1	22.1	24.1	26.1	28.1	30.1	32.1	34.1	38	20.1	22.1	24.1	26.1	28.1	30.1	32.1	34.1	38		
29	18.6	20.6	22.6	24.6	26.6	28.6	30.6	32.6	34.6	39	20.6	22.6	24.6	26.6	28.6	30.6	32.6	34.6	39		
30	19.1	21.1	23.1	25.1	27.1	29.1	31.1	33.1	35.1	40	21.1	23.1	25.1	27.1	29.1	31.1	33.1	35.1	40		
31	19.6	21.6	23.6	25.6	27.6	29.6	31.6	33.6	35.6	41	21.6	23.6	25.6	27.6	29.6	31.6	33.6	35.6	41		
32	20.1	22.1	24.1	26.1	28.1	30.1	32.1	34.1	36.1	42	22.1	24.1	26.1	28.1	30.1	32.1	34.1	36.1	42		
33	20.6	22.6	24.6	26.6	28.6	30.6	32.6	34.6	36.6	43	22.6	24.6	26.6	28.6	30.6	32.6	34.6	36.6	43		
34	21.1	23.1	25.1	27.1	29.1	31.1	33.1	35.1	37.1	44	23.1	25.1	27.1	29.1	31.1	33.1	35.1	37.1	44		
35	21.6	23.6	25.6	27.6	29.6	31.6	33.6	35.6	37.6	45	23.6	25.6	27.6	29.6	31.6	33.6	35.6	37.6	45		
36	22.1	24.1	26.1	28.1	30.1	32.1	34.1	36.1	38.1	46	24.1	26.1	28.1	30.1	32.1	34.1	36.1	38.1	46		
37	22.6	24.6	26.6	28.6	30.6	32.6	34.6	36.6	38.6	47	24.6	26.6	28.6	30.6	32.6	34.6	36.6	38.6	47		
38	23.1	25.1	27.1	29.1	31.1	33.1	35.1	37.1	39.1	48	25.1	27.1	29.1	31.1	33.1	35.1	37.1	39.1	48		
39	23.6	25.6	27.6	29.6	31.6	33.6	35.6	37.6	39.6	49	25.6	27.6	29.6	31.6	33.6	35.6	37.6	39.6	49		
40	24.1	26.1	28.1	30.1	32.1	34.1	36.1	38.1	40.1	50	26.1	28.1	30.1	32.1	34.1	36.1	38.1	40.1	50		
41	24.6	26.6	28.6	30.6	32.6	34.6	36.6	38.6	40.6	51	26.6	28.6	30.6	32.6	34.6	36.6	38.6	40.6	51		
42	25.1	27.1	29.1	31.1	33.1	35.1	37.1	39.1	41.1	52	27.1	29.1	31.1	33.1	35.1	37.1	39.1	41.1	52		
43	25.6	27.6	29.6	31.6	33.6	35.6	37.6	39.6	41.6	53	27.6	29.6	31.6	33.6	35.6	37.6	39.6	41.6	53		
44	26.1	28.1	30.1	32.1	34.1	36.1	38.1	40.1	42.1	54	28.1	30.1	32.1	34.1	36.1	38.1	40.1	42.1	54		
45	26.6	28.6	30.6	32.6	34.6	36.6	38.6	40.6	42.6	55	28.6	30.6	32.6	34.6	36.6	38.6	40.6	42.6	55		
46	27.1	29.1	31.1	33.1	35.1	37.1	39.1	41.1	43.1	56	29.1	31.1	33.1	35.1	37.1	39.1	41.1	43.1	56		
47	27.6	29.6	31.6	33.6	35.6	37.6	39.6	41.6	43.6	57	29.6	31.6	33.6	35.6	37.6	39.6	41.6	43.6	57		
48	28.1	30.1	32.1	34.1	36.1	38.1	40.1	42.1	44.1	58	30.1	32.1	34.1	36.1	38.1	40.1	42.1	44.1	58		
49	28.6	30.6	32.6	34.6	36.6	38.6	40.6	42.6	44.6	59	30.6	32.6	34.6	36.6	38.6	40.6	42.6	44.6	59		
50	29.1	31.1	33.1	35.1	37.1	39.1	41.1	43.1	45.1	60	31.1	33.1	35.1	37.1	39.1	41.1	43.1	45.1	60		
51	29.6	31.6	33.6	35.6	37.6	39.6	41.6	43.6	45.6	61	31.6	33.6	35.6	37.6	39.6	41.6	43.6	45.6	61		
52	30.1	32.1	34.1	36.1	38.1	40.1	42.1	44.1	46.1	62	32.1	34.1	36.1	38.1	40.1	42.1	44.1	46.1	62		
53	30.6	32.6	34.6	36.6	38.6	40.6	42.6	44.6	46.6	63	32.6	34.6	36.6	38.6	40.6	42.6	44.6	46.6	63		
54	31.1	33.1	35.1	37.1	39.1	41.1	43.1	45.1	47.1	64	33.1	35.1	37.1	39.1	41.1	43.1	45.1	47.1	64		
55	31.6	33.6	35.6	37.6	39.6	41.6	43.6	45.6	47.6	65	33.6	35.6	37.6	39.6	41.6	43.6	45.6	47.6	65		
56	32.1	34.1	36.1	38.1	40.1	42.1	44.1	46.1	48.1	66	34.1	36.1	38.1	40.1	42.1	44.1	46.1	48.1	66		
57	32.6	34.6	36.6	38.6	40.6	42.6	44.6	46.6	48.6	67	34.6	36.6	38.6	40.6	42.6	44.6	46.6	48.6	67		
58	33.1	35.1	37.1	39.1	41.1	43.1	45.1	47.1	49.1	68	35.1	37.1	39.1	41.1	43.1	45.1	47.1	49.1	68		
59	33.6	35.6	37.6	39.6	41.6	43.6	45.6	47.6	49.6	69	35.6	37.6	39.6	41.6	43.6	45.6	47.6	49.6	69		
60	34.1	36.1	38.1	40.1	42.1	44.1	46.1	48.1	50.1	70	36.1	38.1	40.1	42.1	44.1	46.1	48.1	50.1	70		
61	34.6	36.6	38.6	40.6	42.6	44.6	46.6	48.6	50.6	71	36.6	38.6	40.6	42.6	44.6	46.6	48.6	50.6	71		
62	35.1	37.1	39.1	41.1	43.1	45.1	47.1	49.1	51.1	72	37.1	39.1	41.1	43.1	45.1	47.1	49.1	51.1	72		
63	35.6	37.6	39.6	41.6	43.6	45.6	47.6	49.6	51.6	73	37.6	39.6	41.6	43.6	45.6	47.6	49.6	51.6	73		
64	36.1	38.1	40.1	42.1	44.1	46.1	48.1	50.1	52.1	74	38.1	40.1	42.1	44.1	46.1	48.1	50.1	52.1	74		
65	36.6	38.6	40.6	42.6	44.6	46.6	48.6	50.6	52.6	75	38.6	40.6	42.6	44.6	46.6	48.6	50.6	52.6	75		
66	37.1	39.1	41.1	43.1	45.1	47.1	49.1	51.1	53.1	76	39.1	41.1	43.1	45.1	47.1	49.1	51.1	53.1	76		
67	37.6	39.6	41.6	43.6	45.6	47.6	49.6	51.6	53.6	77	39.6	41.6	43.6	45.6	47.6	49.6	51.6	53.6	77		
68	38.1	40.1	42.1	44.1	46.1	48.1	50.1	52.1	54.1	78	40.1	42.1	44.1	46.1	48.1	50.1	52.1	54.1	78		
69	38.6	40.6	42.6	44.6	46.6	48.6	50.6	52.6	54.6	79	40.6	42.6	44.6	46.6	48.6	50.6	52.6	54.6	79		
70	39.1	41.1	43.1	45.1	47.1	49.1	51.1	53.1	55.1	80	41.1	43.1	45.1	47.1	49.1	51.1	53.1	55.1	80		
71	39.6	41.6	43.6	45.6	47.6	49.6	51.6	53.6	55.6	81	41.6										

RODGKINSON'S FORMULA.

(Ends flat and fixed.)

Where D = Diameter of Column in inches.

" d = Internal diameter of column in inches.

" L = Length of Column in feet.

" W = Breaking Weight in tons.

$$D^3 = \frac{W L^3}{10000}$$

Solid Columns, $W = 44716 \frac{D^3}{L^3}$ Hollow Columns, $W = 44716 \frac{D^3 - d^3}{L^3}$

The strength of a Hollow Column nearly equals the difference between the solid of two solid columns the diameters of which are equal to the external and internal diameters of the hollow one.

Strength of short Column in which L is less than 30 D. Let W be the weight of Column as found from formula above. C crushing force per square inch of section of the metal & sectional area of column.

$$\text{Then corrected breaking weight} = \frac{W C}{W + C}$$

The crushing strength of Cast Iron per sq. inch of section is 40 tons.

The strength of a solid Cast Iron column of small diameter is harder and stronger than the inside; in one specimen Mr. Hodgkinson found the crushing strength varies from 20,000 tons per sq. inch to 30,000 tons, and thin rings of the same iron had a crushing strength of from 14,000 to 15,000 tons per square inch. The difference of thickness, weight, &c. were not considered in all parts of the experiments. Three columns having the same sectional area, but of round, square, and triangular forms are of the following strengths respectively, viz:—55,399; 51,537; 61,056.

TELEGRAMS—

"MEASURES, LONDON."



MEASURES

BROS., LTD.

TELEPHONE

No. 4,586.



SOUTHWARK STREET, S.E.,

Have in Stock 6,500 Tons of Rolled Steel Joists, Plates, Angles, Tees, Channels, &c., of Siemens-Martin, Bessemer, and Basic Steel Manufacture, and have supplied the Constructional Ironwork for numerous Public Buildings, some of which are given below:—



NATIONAL SAFE DEPOSIT Co., LONDON; "TIMES" OFFICE; CASSELL & Co.;

FOSTER PORTERS (Site of the Great Fire in Wood Street);

CLYDESDALE BANK, GLASGOW; AMICABLE ASSURANCE Co. OFFICES, GLASGOW

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BANK OF SCOTLAND, FINE ARTS GALLERY, GLASGOW; ROBINSON'S BUILDINGS, GLASGOW;

BLACKIE & Co.; "GLASGOW HERALD" OFFICE; BONDED WAREHOUSE, LONDON;

SIR RICHARD WALLACE'S PICTURE GALLERY, LONDON;

JOHNSTON & Co., PUBLISHERS, EDINBURGH;

AND MESSRS. HOWELL & Co.'s NEW PREMISES, LUDGATE HILL. (See Photographs.)

AND MANY OTHER LARGE BUILDINGS ALL OVER THE WORLD.

ALSO TO THE WAR OFFICE ADMIRALTY, AND PRISON DEPARTMENTS.

WE HAVE A

LARGE STOCK OF CAST IRON COLUMNS,

Varying from 3 inch to 6 inch diameter, WITH LOOSE CAPS.

ALSO OF

BOLTS, NUTS, COACH SCREWS, BOLT ENDS, UNTAPPED NUTS,
AND WASHERS.

ALL SECTIONS OF STEEL JOISTS KEPT IN STOCK AND ARE THE BEST AND
CHEAPEST IN THE MARKET.

Girders can be made of Stock Sections in a Few Hours.

6,500 TONS OF ROLLED STEEL JOISTS, PLATES, &c., ALWAYS IN OUR LONDON STOCK.



MEASURES BROS., LTD., have in Stock 6,500 Tons of Steel I Angles, Tees, Channels, and Plates.

They can supply from Stock 100 Tons Orders in 24 hours by special arrangement, and Orders can be made from Stock direct in iron or Steel for prompt delivery.

SECTION OF STEEL JOISTS.

in.	in.	in.	in.	in.	in.
10 1/2 x 7 1/2	10	4 1/2	6	4 1/2	6
17 1/2 x 10 1/2	12	4 1/2	6	4 1/2	6
15 1/2 x 10 1/2	12	4 1/2	6	4 1/2	6
15 x 8 1/2	10	7	5	4 1/2	6
13 1/2 x 8 1/2	8	6	5	4 1/2	6
12 x 8 1/2	8	5	4	4 1/2	6
12 x 6	8	4	4	4 1/2	6
11 x 5	7	4 1/2	4	4 1/2	6
10 x 6	7	4 1/2	3	4 1/2	6
10 x 5	6	4 1/2	3	4 1/2	6

SECTIONS OF STEEL ANGLES, TEES AND CHANNELS.

in.	in.	in.	in.	in.	in.
7 1/2 x 4	5 1/2 x 3 1/2	4 x 3 1/2	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3
6 x 4	4 x 3 1/2	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3	3 1/2 x 3
5 x 3 1/2	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3
4 x 3 1/2	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3
4 x 3	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3
3 1/2 x 3 1/2	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3
3 x 3	3 x 3	3 x 3	3 x 3	3 x 3	3 x 3
2 x 3	2 x 3	2 x 3	2 x 3	2 x 3	2 x 3
1 1/2 x 3	1 1/2 x 3	1 1/2 x 3	1 1/2 x 3	1 1/2 x 3	1 1/2 x 3

ROOFS, BRIDGES, COLUMNS, SASHES, AND EVERY DESCRIPTION OF WROUGHT AND CAST IRONWORK.

Rolled Iron Joists and Girders.

Table of safe distributed loads in Tons, and decimal parts of a ton, at about quarter breaking weight.

SECTION.	Depth.	Width.	Weight per foot.	BEARING IN FEET.																
				6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	
	Ins.	Ins.	Lbs.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	
	1	5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	
	2	10	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	
	3	15	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.0	6.3	
	4	20	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.0	6.4	6.8	7.2	7.6	8.0	8.4	
	5	25	2.5	3.0	3.6	4.2	4.8	5.4	6.0	6.6	7.2	7.8	8.4	9.0	9.6	10.2	10.8	11.4	12.0	
	6	30	3.0	3.6	4.3	5.0	5.7	6.4	7.1	7.8	8.5	9.2	9.9	10.6	11.3	12.0	12.7	13.4	14.1	
	7	35	3.5	4.2	5.0	5.8	6.6	7.4	8.2	9.0	9.8	10.6	11.4	12.2	13.0	13.8	14.6	15.4	16.2	
	8	40	4.0	4.8	5.7	6.6	7.5	8.4	9.3	10.2	11.1	12.0	12.9	13.8	14.7	15.6	16.5	17.4	18.3	
	9	45	4.5	5.4	6.4	7.4	8.4	9.4	10.4	11.4	12.4	13.4	14.4	15.4	16.4	17.4	18.4	19.4	20.4	
	10	50	5.0	6.0	7.1	8.2	9.3	10.4	11.5	12.6	13.7	14.8	15.9	17.0	18.1	19.2	20.3	21.4	22.5	
	11	55	5.5	6.6	7.8	9.0	10.2	11.4	12.6	13.8	15.0	16.2	17.4	18.6	19.8	21.0	22.2	23.4	24.6	
	12	60	6.0	7.2	8.5	9.8	11.1	12.4	13.7	15.0	16.3	17.6	18.9	20.2	21.5	22.8	24.1	25.4	26.7	
	13	65	6.5	7.8	9.2	10.6	12.0	13.4	14.8	16.2	17.6	19.0	20.4	21.8	23.2	24.6	26.0	27.4	28.8	
	14	70	7.0	8.4	9.9	11.4	12.9	14.4	15.9	17.4	18.9	20.4	21.9	23.4	24.9	26.4	27.9	29.4	30.9	
		15	75	7.5	9.0	10.6	12.2	13.8	15.4	17.0	18.6	20.2	21.8	23.4	25.0	26.6	28.2	29.8	31.4	33.0
16		80	8.0	9.6	11.3	13.0	14.7	16.4	18.1	19.8	21.5	23.2	24.9	26.6	28.3	30.0	31.7	33.4	35.1	
17		85	8.5	10.2	12.0	13.8	15.6	17.4	19.2	21.0	22.8	24.6	26.4	28.2	30.0	31.8	33.6	35.4	37.2	
18		90	9.0	10.8	12.7	14.6	16.5	18.4	20.3	22.2	24.1	26.0	27.9	29.8	31.7	33.6	35.5	37.4	39.3	
19		95	9.5	11.4	13.4	15.4	17.4	19.4	21.4	23.4	25.4	27.4	29.4	31.4	33.4	35.4	37.4	39.4	41.4	
20		100	10.0	12.0	14.0	16.0	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0	36.0	38.0	40.0	42.0	
21		105	10.5	12.6	14.7	16.8	18.9	21.0	23.1	25.2	27.3	29.4	31.5	33.6	35.7	37.8	39.9	42.0	44.1	
22		110	11.0	13.2	15.4	17.6	19.8	22.0	24.2	26.4	28.6	30.8	33.0	35.2	37.4	39.6	41.8	44.0	46.2	
23		115	11.5	13.8	16.1	18.4	20.7	23.0	25.3	27.6	29.9	32.2	34.5	36.8	39.1	41.4	43.7	46.0	48.3	
24		120	12.0	14.4	17.0	19.4	21.8	24.2	26.6	29.0	31.4	33.8	36.2	38.6	41.0	43.4	45.8	48.2	50.6	
25		125	12.5	15.0	17.7	20.2	22.7	25.2	27.7	30.2	32.7	35.2	37.7	40.2	42.7	45.2	47.7	50.2	52.7	
26		130	13.0	15.6	18.4	21.0	23.6	26.2	28.8	31.4	34.0	36.6	39.2	41.8	44.4	47.0	49.6	52.2	54.8	
27		135	13.5	16.2	19.1	21.8	24.5	27.2	29.9	32.6	35.3	38.0	40.7	43.4	46.1	48.8	51.5	54.2	56.9	
28		140	14.0	16.8	20.0	22.8	25.6	28.4	31.2	34.0	36.8	39.6	42.4	45.2	48.0	50.8	53.6	56.4	59.2	
29		145	14.5	17.4	20.7	23.6	26.4	29.2	32.0	34.8	37.6	40.4	43.2	46.0	48.8	51.6	54.4	57.2	60.0	
		30	150	15.0	18.0	21.4	24.4	27.4	30.4	33.4	36.4	39.4	42.4	45.4	48.4	51.4	54.4	57.4	60.4	63.4
	31	155	15.5	18.6	22.1	25.2	28.2	31.2	34.2	37.2	40.2	43.2	46.2	49.2	52.2	55.2	58.2	61.2	64.2	
	32	160	16.0	19.2	22.8	26.0	29.0	32.0	35.0	38.0	41.0	44.0	47.0	50.0	53.0	56.0	59.0	62.0	65.0	
	33	165	16.5	19.8	23.5	26.8	29.8	32.8	35.8	38.8	41.8	44.8	47.8	50.8	53.8	56.8	59.8	62.8	65.8	
	34	170	17.0	20.4	24.2	27.6	30.6	33.6	36.6	39.6	42.6	45.6	48.6	51.6	54.6	57.6	60.6	63.6	66.6	
	35	175	17.5	21.0	25.0	28.4	31.4	34.4	37.4	40.4	43.4	46.4	49.4	52.4	55.4	58.4	61.4	64.4	67.4	
	36	180	18.0	21.6	25.7	29.2	32.2	35.2	38.2	41.2	44.2	47.2	50.2	53.2	56.2	59.2	62.2	65.2	68.2	
	37	185	18.5	22.2	26.4	30.0	33.0	36.0	39.0	42.0	45.0	48.0	51.0	54.0	57.0	60.0	63.0	66.0	69.0	
	38	190	19.0	22.8	27.1	30.8	33.8	36.8	39.8	42.8	45.8	48.8	51.8	54.8	57.8	60.8	63.8	66.8	69.8	
	39	195	19.5	23.4	27.8	31.6	34.6	37.6	40.6	43.6	46.6	49.6	52.6	55.6	58.6	61.6	64.6	67.6	70.6	
	40	200	20.0	24.0	28.5	32.4	35.4	38.4	41.4	44.4	47.4	50.4	53.4	56.4	59.4	62.4	65.4	68.4	71.4	
	41	205	20.5	24.6	29.2	33.2	36.2	39.2	42.2	45.2	48.2	51.2	54.2	57.2	60.2	63.2	66.2	69.2	72.2	
	42	210	21.0	25.2	30.0	34.0	37.0	40.0	43.0	46.0	49.0	52.0	55.0	58.0	61.0	64.0	67.0	70.0	73.0	
	43	215	21.5	25.8	30.7	34.8	37.8	40.8	43.8	46.8	49.8	52.8	55.8	58.8	61.8	64.8	67.8	70.8	73.8	
	44	220	22.0	26.4	31.4	35.6	38.6	41.6	44.6	47.6	50.6	53.6	56.6	59.6	62.6	65.6	68.6	71.6	74.6	
	45	225	22.5	27.0	32.1	36.4	39.4	42.4	45.4	48.4	51.4	54.4	57.4	60.4	63.4	66.4	69.4	72.4	75.4	
	204	16	180	..	..	..	..	41.9	43.5	45.1	46.7	48.3	49.9	51.5	53.1	54.7	56.3	57.9	59.5	
	224	16	..	..	..	..	..	54.0	57.0	60.0	63.0	66.0	69.0	72.0	75.0	78.0	81.0	84.0	87.0	
					6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36

Superficial Yards covered by Centent rendering

	1 in.	1 1/2 in.	2 in.	2 1/2 in.	3 in.
1 Bushel of Cement	2 1/2	2 1/2	3	3 1/2	4
1 cu. of do. and 1 of Sand	4 1/2	3 1/2	3 1/2	3 1/2	3 1/2
1 cu. of do. and 2 "	6 1/2	5 1/2	4 1/2	4 1/2	4 1/2
1 cu. of do. and 3 "	8 1/2	7 1/2	6 1/2	5 1/2	4 1/2

1/2 inch is the usual thickness

1 Cubic Yard of Lime, 2 yards of Sand, and 3 Bushels of Hair will cover 75 yards of Render and set on Brick and 70 yards on Lath, or 65 yards Plaster or Render 2 Coats and set on Brick, and 60 yards on Lath.

PAINTERS' MEMORANDA

The surfaces to be painted must be prepared by killing knots in woodwork, stopping holes, making good defects, and rubbing down irregularities.

The following materials are mostly used by painters:—

Base—White lead, red lead, zinc white, oxide of iron.

Vehicles—Oils, spirits of turpentine. *Solvents*—Spirits of turpentine.

Driers—Litharge, acetate of lead, sulphate of zinc and binoids of manganese, red lead, &c.

Colouring Pigments—Ochres, lampblack, amber, sienna, and metallic salts.

For Priming—White lead sometimes mixed with chalk, diluted with linseed oil. *Finishing*—Red lead and sienna. *Putty*—Spanish whiting and linseed oil, well beaten and annealed into a stiff paste.

One Pound of knotting is allowed for 150 yards of painting on woodwork, one pound of putty for 30 yards of stopping; one pound of paint for four yards super first coat, said six yards super each additional coat.

For Finishing—The best paints are those formed of some of the oxides of iron.

To Remove Paint from Wood—2 lbs. of washing soda mixed with 1/2 bushel of quicklime, to the consistency of thick cream, spread on and kept moist for one hour.

PIPES.

RULES RELATING TO PIPES.

To find the Pressure per square inch of a Column of Water (Feet).—Multiply the height in feet by .434

Example.—Required the pressure in pounds per square inch of a column of water 100 feet high:—

$$100 \times .434 = 43.4 \text{ pounds per square inch.}$$

A ready way of approximately ascertaining the pressure is to take half the height in feet, the difference being on the side of safety.

The pressure per circular inch may be found by multiplying the height in feet by .341.

To find the Pressure of a Column of Water in Pounds.—If the base be circular, square the diameter in inches and multiply by .34, which gives the weight of a foot in height; and multiply again by the number of feet in height, which gives the total pressure. If the base be square, multiply by .434

Example.—

Required the pressure of a column of water 12 inches in diameter and 50 feet high:—

$$12 \times 12 \times .34 \times 50 = 244.8 \text{ lbs. if the base be circular.}$$

$$12 \times 12 \times .434 \times 50 = 312.48 \text{ " " " " square.}$$

To find the Quantity of Water in a Pipe.—The square of the diameter in inches gives the weight of water in pounds for 3 feet in length, and by striking off one figure to the right the number of gallons is found.

Example.—

Required the quantity of water which a pipe 12 inches in diameter and 9 feet long will contain

$$12 \times 12 \times 9 = 432 \text{ pounds, or } 43 \frac{1}{2} \text{ gallons.}$$

To find the required Diameter of a Pipe to discharge a given quantity of water at a given speed per minute. Multiply the number of cubic feet of water per minute by 244, divide by the velocity of flow in feet per minute, divide by .7854 and take out the square root, which will give the diameter of pipe required.

ROOFS.

TABLE OF SCANTLINGS OF WOOD ROOFS.

King and Queen Post Trusses, 10 feet apart, Pitch, 27°; Slate Covering.

Span in feet	The Beam.	Principal Rafters	King Post.	Queen Post.	Small Queen.	Strutting Beams.	Stitch.
	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.	Inch.
20	9 x 4	4 x 4	4 x 4	..	..	..	4 x 2
22	10 x 5	5 x 5	5 x 5	..	..	..	5 x 2
24	10 x 5	5 x 5	5 x 5	..	..	..	5 x 2
26	11 x 6	5 x 5	5 x 5	..	..	..	5 x 2
28	11 x 6	6 x 6	6 x 6	..	..	..	6 x 2
30	12 x 6	6 x 6	6 x 6	..	..	..	6 x 2
32	10 x 5	5 x 5	5 x 5	..	..	..	6 x 2
34	10 x 5	5 x 5	5 x 5	..	..	..	6 x 2
36	11 x 6	6 x 6	6 x 6	..	..	..	6 x 2
38	11 x 6	6 x 6	6 x 6	..	..	..	6 x 2
40	11 x 6	6 x 6	6 x 6	..	..	..	6 x 2
42	11 x 6	6 x 6	6 x 6	..	..	..	6 x 2
44	12 x 6	6 x 6	6 x 6	..	..	..	6 x 2
46	12 x 6	6 x 6	6 x 6	..	..	..	6 x 2
48	12 x 6	6 x 6	6 x 6	..	..	..	6 x 2
50	12 x 6	6 x 6	6 x 6	..	..	..	6 x 2

FURLING.

Bearing in feet	Distance apart in feet.							
	6		7		8		9	
5	Depth.	Breadth.	Depth.	Breadth.	Depth.	Breadth.	Depth.	Breadth.
6	6 x 3 1/2	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4
7	6 x 3 1/2	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4
8	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4
9	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4
10	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4
11	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4
12	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4
13	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4
14	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4
15	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4	6 x 4

COMMON RAFTERS (12 inches apart).

4 feet bearing, 3 in. x 14 in.; 6 feet bearing, 3 1/2 in. x 12 in.; 8 feet bearing, 4 in. x 12 in.; 10 feet bearing, 5 in. x 12 in.; 12 feet bearing, 6 in. x 12 in.; 14 feet bearing, 7 in. x 12 in.; 16 feet bearing, 8 in. x 12 in.

STONE.

Stones built into walls should be laid on their natural beds. In corners and projecting moldings the bed should be vertical and at right angles to the face of the wall. In arches the bed should be at right angles to the thrust of the arch.

A stone on its natural bed will bear a greater weight than when it is placed vertically.

Tests.—Stones newly fractured should present a bright, clean appearance, with grains well cemented together. A rough test to prove whether a stone is likely to stand in the smoky atmosphere of towns is to soak it for a few days in dilute solution, containing one per cent. of sulphuric acid and hydrochloric acid.

Mr C. H. Smith's test to find earthy matter in stone:—

Break off a few chips about the size of a shilling with a chisel and a smart blow from a hammer; put them in a glass about one third full of clean water; let them remain undisturbed at least half-an-hour. The water and specimens together should then be agitated by giving the glass a circular motion with the hand. If the stone be highly crystalline, and the particles well cemented together, the water will remain clear and transparent, but if the specimens contain uncrystallised earthy powder the water will present a turbid or milky appearance, in proportion to the quantity of loose matter contained in the stone. The stone should be damp, almost wet, when the fragments are chipped off."

TERRA COTTA

Natural terra cotta clay contains 60 to 65 parts of silica to about 20 parts of alumina. Terra cotta shrinks 1-8th to 1-12th in burning. It should be free from fire cracks, have lines true, its surfaces not chipped or rubbed after burning, and each piece should be properly chambered with cross pieces. Blocks should average 1 to 3 feet cube, never more than 4 feet, usually 12 in. to 16 in. long, 6 in. to 15 in. high, 4 in. to 9 in. on bed, if hollow 1 in. to 2 in. thick. Large blocks should have a diaphragm of terra cotta across them; blocks required to bear weight should be filled with lime concrete or Roman cement (not Portland cement, which has a tendency to swell and burst the blocks). Joints should be joggled, stopped ends solid, beds even, and samples should show extreme limit of colour and evenness.

ROOFING TILES.

Amongst the best of this description are Broseley Tiles, the colour of which varies from pale strawberry red to dark brick (a deep reddish brown), or even to blue, through an almost infinite gradation of colour, so that almost any colour can be obtained.

Old Broseley Tiles used on buildings two centuries and more are as good and sound as when first laid. They get their weathering quickly and are use-proofs. Sizes, 7½ inch x 6½ inch x ½ inch, and weight about 2½ lbs. each, and 11 inch x 7 inch x ½ inch, and weight about 3 lbs. each. Pantiles are 13½ inch by 9½ inch x ½ inch, and weight about 4½ lbs. each.

Per square foot of roofing requires 300 plain tiles laid to a 3 inch gauge, 700 tiles laid to a 3½ inch gauge, and 600 tiles laid to a 4 inch gauge, and the pantiles laid to a 10 inch gauge, 164 pantiles laid to an 11 inch gauge, and 150 pantiles laid to a 12 inch gauge.

One square of plain tile weighs about 15 cwt., and one square of pantiles about 8 cwt.

For tiling laths are 1½ inch x 4 inch; and oak tiling laths 2½ inch x 4 inch.

100 plain tile laths 1 foot long = a bundle.
12 pantile laths 1 foot long = a bundle.

One square of tiling requires 1 bundle of laths; 1½ hundred of nails; one peck of tile-pine; and 3 bds of mortar.

One square of pantiling requires a bundle of laths and 1½ hundred of nails.

FLOORING TILES

Geometrical, in plain colours, red, buff, grey, fawn, chocolate and black.

Vitreous, white, dove, silver grey, blue, green, and pink.

Encaustic, for enrichment in floor designs, various colours inlaid and burnt in.

Arcator or Medial Arcator, for Churches.

Ceramic Mosaic, for floors, very hard and durable.

HEARTH TILES

Enamelled in a great variety of colours in smooth, roughed, inked, and embossed bodies.

Printed and Painted Tiles

CLEANING TILES, STONEWARE, &c.

Stains or dirt adhering to Tiles, Stoneware, &c., may be removed by dilute Muriatic Acid ("Spirits of Salts"), care being taken that the acid is all wiped off, and, after a wash, the superfluous moisture should be wiped off with a clean dry cloth.

VALUATION TABLE.

For purchasing Leases, Estates, or Annuities, showing the number of Years Purchase to repay the Purchase Money Principal and Interest at the various Rates.

YEARS PURCHASE											
	3 p.c.	4 p.c.	5 p.c.	6 p.c.	7 p.c.	8 p.c.	9 p.c.	10 p.c.	11 p.c.	12 p.c.	13 p.c.
1	0.97	0.96	0.95	0.94	0.94	0.93	0.92	0.91			
2	1.92	1.89	1.86	1.83	1.81	1.78	1.75	1.72	1.70	1.67	1.64
3	2.83	2.78	2.72	2.67	2.62	2.55	2.51	2.46	2.42	2.37	2.32
4	3.72	3.63	3.55	3.47	3.39	3.31	3.24	3.17			
5	4.58	4.45	4.33	4.21	4.10	3.99	3.89	3.79			
6	5.42	5.24	5.08	4.94	4.77	4.62	4.49	4.36			
7	6.23	6.00	5.79	5.58	5.39	5.21	5.03	4.87			
8	7.00	6.73	6.49	6.21	5.97	5.75	5.54	5.34			
9	7.79	7.44	7.11	6.80	6.50	6.25	6.00	5.77			
10	8.53	8.11	7.72	7.36	7.00	6.71	6.43	6.15			
11	9.23	8.76	8.31	7.89	7.50	7.14	6.81	6.50			
12	9.93	9.39	8.90	8.38	7.94	7.54	7.16	6.81			
13	10.59	9.99	9.46	8.89	8.36	7.90	7.49	7.10			
14	11.22	10.55	9.98	9.36	8.75	8.24	7.79	7.37			
15	11.84	11.12	10.48	9.79	9.11	8.56	8.05	7.61			
16	12.45	11.67	10.96	10.18	9.45	8.85	8.31	7.84			
17	13.07	12.24	11.47	10.63	9.85	9.18	8.54	8.03			
18	13.67	12.80	11.97	11.08	10.25	9.52	8.79	8.20			
19	14.26	13.33	12.46	11.57	10.70	9.90	9.15	8.37			
20	14.83	13.89	12.97	12.09	11.17	10.34	9.60	8.79			
21	15.40	14.43	13.48	12.59	11.64	10.76	10.00	9.17			
22	15.95	14.95	13.96	13.07	12.10	11.17	10.38	9.53			
23	16.49	15.45	14.42	13.54	12.56	11.60	10.80	9.94			
24	17.02	15.93	14.87	13.99	12.99	12.00	11.17	10.29			
25	17.54	16.40	15.30	14.42	13.40	12.45	11.60	10.71			
26	18.05	16.86	15.73	14.83	13.81	12.84	11.97	11.05			
27	18.55	17.30	16.15	15.23	14.21	13.22	12.33	11.43			
28	19.04	17.73	16.55	15.62	14.59	13.59	12.69	11.78			
29	19.52	18.15	16.94	16.00	14.96	13.95	13.03	12.12			
30	20.00	18.56	17.32	16.37	15.31	14.29	13.38	12.45			
31	20.47	18.96	17.69	16.73	15.65	14.62	13.64	12.76			
32	20.93	19.35	18.05	17.08	15.98	14.94	13.91	13.01			
33	21.39	19.73	18.40	17.42	16.29	15.25	14.16	13.30			
34	21.84	20.10	18.74	17.75	16.59	15.55	14.44	13.57			
35	22.29	20.46	19.07	18.07	16.88	15.83	14.71	13.83			
36	22.73	20.81	19.39	18.38	17.16	16.10	14.97	14.08			
37	23.17	21.15	19.70	18.68	17.43	16.36	15.22	14.32			
38	23.60	21.49	20.00	18.97	17.69	16.61	15.46	14.55			
39	24.03	21.82	20.29	19.25	17.94	16.85	15.69	14.77			
40	24.45	22.15	20.57	19.52	18.18	17.08	15.91	14.99			
41	24.87	22.47	20.84	19.78	18.41	17.30	16.12	15.20			
42	25.29	22.79	21.10	20.03	18.63	17.51	16.33	15.41			
43	25.70	23.10	21.36	20.27	18.84	17.71	16.53	15.61			
44	26.11	23.41	21.61	20.50	19.04	17.91	16.73	15.81			
45	26.52	23.71	21.86	20.72	19.24	18.11	16.93	16.01			
46	26.92	24.01	22.10	20.94	19.43	18.31	17.13	16.20			
47	27.32	24.31	22.34	21.15	19.62	18.50	17.32	16.39			
48	27.72	24.60	22.57	21.36	19.80	18.69	17.51	16.57			
49	28.11	24.89	22.79	21.56	20.00	18.87	17.69	16.75			
50	28.50	25.18	23.00	21.75	20.18	19.05	17.87	16.93			

Thus, £65 per annum for 40 years, at 6 per cent. is worth 1505 years' purchase, or 150½.

LEASEHOLD PROPERTY.

1st class, 6 per cent.; and, 6½ per cent.; 3rd, 7 per cent. (4th, 7½ per cent.)

VENTILATION.

A satisfactory system of ventilation must remove air charged with an excess of carbonic acid, and containing impurities of respiration and combustion, without inconvenience from draughts, at the same time maintaining an even and agreeable temperature.

A certain amount of ventilation takes place through doors, windows, fire-places, and through brick walls.

Vitiated air should be extracted at the highest possible point. In a large room or building it is advisable to extract the air through several openings, uniformly distributed. Fresh air should be admitted with an upward direction, above the level of the head, and be warmed in winter if possible. It should also be introduced at many points in the building at low velocity, and with inlet tubes at least half as large again as exhaust tubes.

Each person requires at least from 3 to 5 cubic feet of air per minute. At Freshair Technical School, about 11 cubic feet of air per minute is provided in the class-rooms, and 50 cubic feet per minute in the chemical laboratories and draught class-rooms.

BOYLE'S PATENT LATEST IMPROVED SELF-ACTING AIR-PUMP VENTILATOR.

THE MOST POWERFUL
EXHAUST AND
CHEAPEST

VENTILATOR
IN THE MARKET

IMPERVIOUS TO
WET & DOWN-
DRAUGHT.

Strongly made of the
Best Steel,
Galvanized, and Finest
Workmanship.



N.B. These Ventilators
are manufactured solely
by us, and none are
genuine unless they
bear our registered title
and trade mark.

BEWARE OF WORTHLESS
IMITATIONS.

When specifying or order-
ing, the words,
"BOYLE'S PATENT AIR-
PUMP VENTILATOR"
should be used

LATEST REDUCED PRICE LIST.

Carriage Paid to any Railway Station in the United Kingdom.

NOTE.—The extrating power of a roof ventilator of proper construction lies *entirely* in the head, and is solely determined by the size of the same, and not by the diameter of the shaft attached to it.

12 ins. 4 to	5 ins. pipe (diameter of pipe recommended 6 ins.)	No. 1 & No. 1A.	No. 2A.	No. 3.
14 5 9	" "	£ 5 0	—	—
16 6 10	" "	3 10 0	—	—
18 7 11	" "	2 2 0	—	—
20 8 12	" "	2 10 0	£ 4 4 0	£ 4 15 0
24 10 14	" "	3 10 0	4 17 0	5 10 0
27 11 16	" "	4 10 0	6 10 0	7 7 0
30 12 18	" "	5 5 0	7 10 0	8 15 0
36 15 21	" "	6 10 0	8 8 0	10 10 0
42 17 24	" "	8 15 0	12 10 0	14 10 0
48 20 28	" "	11 15 0	18 15 0	20 15 0
54 24 32	" "	14 17 0	22 10 0	24 10 0
60 28 36	" "	18 18 0	27 10 0	31 10 0

These Ventilators can be made with square, round or octagon bases, for fitting into tanks, &c. when required, without extra charge.
N.B.—When ORDERING, PLEASE STATE DIAMETER OF PIPE REQUIRED.

BOYLE'S

Latest Improved Air Inlet Brackets and Wall Panels from 7s. 6d. each.

Made of strong Galvanized Iron, painted, and fitted with Regulating Valve, Canvas Air Filter, and Deflecting Shield.
CARRIAGE PAID TO ANY RAILWAY STATION IN THE UNITED KINGDOM.



BRACKETS.				WALL PANEL.			
No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 9	No. 9
£ 4 0	£ 4 0	£ 4 0	£ 4 0	£ 4 0	£ 4 0	£ 4 0	£ 4 0
10 10 0	10 10 0	10 10 0	10 10 0	10 10 0	10 10 0	10 10 0	10 10 0
10 10 0	10 10 0	10 10 0	10 10 0	10 10 0	10 10 0	10 10 0	10 10 0
10 10 0	10 10 0	10 10 0	10 10 0	10 10 0	10 10 0	10 10 0	10 10 0

ROBERT BOYLE & SON, Ltd., 64, Holborn Viaduct, London; & 110, Bothwell St., Glasgow.

CATALOGUES PRICE LISTS, &c. SENT POST FREE ON APPLICATION

VENTILATION (continued)

Rule to find area of ventilating tubes in feet.—Multiply the number of people in the room by a 3 and divide this product by 43 times the square root of the height of the tubes in feet.—*Wheffield.*

Table by Mr. Head, showing cubic feet of air discharged per minute through a ventilator with an area of one square foot

Height of Ventilator in Feet	Difference between Temperature in Room and External Air.					
	5°	10°	15°	20°	25°	30°
10	116	164	200	235	260	284
15	142	201	245	284	315	344
20	164	231	285	330	368	404
25	184	260	318	368	410	450
30	201	284	347	403	450	493
35	218	306	376	431	480	531
40	235	329	403	465	518	570
45	248	348	427	493	551	605
50	260	367	450	518	579	635

If the openings for the admission of fresh air be smaller than those for the escape of the heated air, there will probably be a descending current of cold air in the same tube with the ascending current of hot air.

Inlet ventilators should provide for the admission of air in an upward direction, and it is advisable for the ventilator to widen out at the mouth to diffuse the air as it enters an apartment.

Ventilators should be simple in form and either automatic or very easily and inexpensively worked.

WALL AND CEILING COVERINGS.

PAPERHANGINGS.

Paperhangings arrange themselves naturally into two great divisions, *machine made and hand work*; that is, papers printed from cylinders by steam machinery, and papers printed from blocks by hand power only. In both processes the printing is done from the raised surface of a roller or block.

In machine printing the design is raised above the level of the wooden cylinder by means of copper bands or tapes, driven edgewise into the wood following the contour of the design which has been previously drawn upon it, and the solid parts are filled in with felt. This paper passes over a huge drum in contact with the printing rollers and receives, during one revolution of the drum, all the colours necessary to complete it, each tint being printed from a separate roller, which is in turn supplied with colour by a supplementary roller, covered with felt, which revolves in a bath or trough of colour. The paper, on leaving the printing machine, is carried away automatically into the drying room, where it is rapidly dried over a series of heated pipes, or pans. Machine printing has now been brought to a great state of perfection, and it is sometimes difficult to distinguish some of the best samples printed on specially thick paper from hand work, so far as the superficial appearance is concerned.

Block Printing.—The first operation in block printing is colouring the ground. In this the paper is laid upon a long table the workman covers the whole surface with colour by means of two large round brushes held in either hand, a boy follows with another brush to keep the colour alive, the man then goes over the whole again very lightly with a clean brush

to finish the smoothing, and the paper is hung up to dry. The next step to colouring the grounds is the printing. The blocks are made of two thicknesses of deal, glued together transversely to prevent warping, with a facing of pear tree wood. In broad, bold designs such as require letting in rollers, the design is cut in wood, the part of the block not required being cut away, and the design left in relief, and in designs consisting of fine delicate lines copper bands are used as in roller making.

The normal size of the printing block is 27 in square. In English papers they are almost always of that width, but they vary in length according to the nature of the pattern, some more, some less, and where a design is too large to print from one block it is made up of any number needed to complete it. In a design composed of two or more colours each colour is usually printed separately, the papers being slowly dried between the printings at the ordinary temperature of the atmosphere, but several colours may be printed at one time: they, however, tax the skill of the workmen, and increase the cost.

Amongst modern improvements in paperstaining is the use of powdered mica on the grounds to produce a silky effect. The material itself is indurated by fire, malleable in water, and unalterable by atmospheric influences. When properly applied it produces an imperishable silky sheen on the paper, soft and rich in effect, especially by gas or other artificial light.

Flock Papers differ from water colour papers both in the material used in form the design and the medium employed in affixing it to the paper. The flock itself is used ground to a fine powder and it is fixed to the paper by an oil colour of a specially sticky nature. The pattern is printed in this sticky oil colour, and the paper is immediately pressed into a trough with a linen bottom, on which the paper rests, the flock dust is then thrown upon it, and it is beaten with a cane which makes the flock dance up in a cloud, and, by force of gravitation, fall down and stick firmly into the oil colour until the whole of the sticky surface is so evenly covered that it looks like a piece of cloth or velvet.

Raised Flock Papers are a development of the ordinary flocking process, the printing and flocking being repeated time after time until the required degree of relief is obtained.

Patent Embossed Blocks. In these papers the design is raised into relief by repeated printings and flockings, in the same manner as if intended to be painted over, it is, however, finished in coloured flock that does not require painting over, and it is finely embossed under heavy pressure by means of heated dies which give to the raised surface of the flock a beautifully modelled appearance like carving in bas relief.

Leather Papers are another important branch of the paper-staining industry. These are broadly of two kinds—the first printed like ordinary papers with one or many colours on thick tough paper, often varnished, and then stamped with a die, giving them an embossed or leathery look, and the next and more important stamped in much higher relief, gilt or silvered, and then coloured and lacquered by hand, producing a more artistic effect free from the monotony of printing or other mechanical aid.

Artesian Papers, formerly much used in the manufacture of papers, have of recent years been justly condemned as injurious to health owing to the heat dust or particles of arsenic flying off from the surface of the paper and contaminating the air. Architects and builders should inquire upon some more healthy arsenical papers for works under their control. It is not difficult to obtain such papers, and there is practically no difference in their cost over those of similar qualities in other respects made with arsenical colours.

GIBBS' PATENT
MOISTLESS OUTLET
VENTILATOR.
Pat. In. P. 7-1



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" 14 " ... 5 to 7 in. pipe. ... 11 7 0	" 14 " ... 10 to 12 in. pipe. ... 15 5 0	" 14 " ... 14 to 16 in. pipe. ... 20 10 0	" 14 " ... 18 to 20 in. pipe. ... 25 15 0
" 16 " ... 6 to 8 in. pipe. ... 12 0 0	" 16 " ... 12 to 14 in. pipe. ... 16 7 0	" 16 " ... 16 to 18 in. pipe. ... 21 10 0	" 16 " ... 20 to 22 in. pipe. ... 26 15 0
" 18 " ... 7 to 9 in. pipe. ... 13 0 0	" 18 " ... 14 to 16 in. pipe. ... 17 10 0	" 18 " ... 18 to 20 in. pipe. ... 22 10 0	" 18 " ... 22 to 24 in. pipe. ... 27 15 0

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No. 12, Design



Gibbs' Patent
Weatherproof
Extractor, Soil
Pipe Pattern.

WALL PAPERS.

English papers are 21 inches wide and 12 yards long.
Approximate number of pieces of English wall paper required for any room. (Allowance to be made for doors and windows.)

Measurement in feet round the walls	Height of room in feet from skirting to cornice.														
	6	7	8	9	10	11	12	13	14	15	Number of Pieces required.				
32	4	4	5	5	6	6	7	7	8	8					
36	4	5	5	6	6	7	7	8	9	9					
40	4	5	6	6	7	8	8	9	10	10					
44	5	6	7	7	8	9	9	10	11	11					
48	5	6	7	8	8	9	10	10	11	12					
52	6	6	7	8	9	10	10	11	12	13					
56	6	7	8	9	10	11	11	12	13	14					
60	6	7	8	9	10	11	12	13	14	15					
64	7	8	9	10	11	12	13	14	15	16					
68	7	8	9	10	11	12	13	15	16	17					
72	7	9	10	11	12	13	14	15	17	18					
76	8	9	10	11	12	13	14	15	17	19					
80	8	9	11	11	13	15	16	17	18	20					
84	9	10	11	12	14	15	17	18	19	21					
88	9	10	12	12	14	16	17	19	20	22					
92	9	11	12	13	15	17	18	19	21	23					
96	10	11	13	13	16	17	19	20	22	24					
100	10	12	13	15	16	18	20	21	24	26					

WARMING.

Stoves.—The principle of warming by steam is the rapid condensation of steam into water on coming in contact with cooling surfaces, the latent heat of steam being given out at the moment of condensation.

Hot Water.—There are two systems of heating by hot water—the large pipe, or low pressure, and the small pipe, or high pressure. In the former the pipes are generally of cast iron, the water is not heated above boiling point, and the boiler is usually of the saddleback description.

Alteration of levels in laying the pipes should be avoided, that the rising and descending streams of water may not be checked in the course of their flow, and to prevent the accumulation of air or steam in any part of the circulation.

Where two apartments, separated by some distance, are to be warmed from one furnace, the connecting pipes may be smaller than those used for circulation in the apartments, as the water will pass more rapidly through a smaller pipe and lose less heat.

In the high pressure system the water is heated to 400 degs. Fahr. or more, but no steam or expansive or explosive vapour is generated as no air is left in the tubes. These are of strong wrought iron usually $\frac{1}{2}$ inch in diameter and $\frac{1}{4}$ inch in bore, and work at a high pressure of 300 lbs. or more to the square inch. Good fires prove such apparatus by hydraulic pressure to 3,000 lbs. to the square inch.

The great bulk of water in the large pipes employed in low pressure heating, by keeping hot for a long time after the fire is out, renders this system applicable for greenhouses, conservatories, &c. The small bore pipes have an advantage in heating of habitable buildings by being far less conspicuous and unsightly; the water also circulates more rapidly, and the heat can be very quickly attained. For drying closets, Turkish baths, &c., where high temperatures are required, this system is well adapted. The boiler which consists merely of a coil of the same tube, is so designed as to secure the greatest advantage from the fire; it is claimed for the high pressure system that it is more economical than any known method of heating. Experiments have proved that, owing to the higher temperature at which they work, the small pipes are, foot per foot, about equal in heating capacity to those generally used in low pressure work. By the use of a chemical solution instead of pure water they can also be protected against frost-burns.

In churches and public rooms, where heat is generated by respirators of a large assembly, the air does not require to be heated above 55 degrees to 58 degrees. A simple rule for finding length of pipe required, allowing for an average number of doors and windows and usual ventilation, is to take the actual measurement of space and divide by 200 for $\frac{1}{4}$ inch pipe, by 150 for $\frac{3}{4}$ inch pipe, and by 100 for 2 inch pipe.

LENGTH OF $\frac{1}{4}$ INCH PIPE PER 1,000 CUBIC FEET OF CONTENTS.

Description of Building	Temper- ature required	Materials used in construction, &c.		Area of Cooling surface, &c.	
		Feet	Feet	Feet	Feet
Churches, Chapels, Schools, &c.	55	5 to 7	8 to 10		
Dwellings	65	10 to 12	12 to 14		
Shops, &c.	60	8 to 9	9 to 10		
Workrooms, Factories, &c. ..	55	10 to 12	7 to 8		
Conservatories, &c.	50 to 55	35 to 40	40 to 45		
Hot Houses	65 to 80	35 to 45	40 to 70		

TABLES.

STRENGTH OF DIFFERENT WOODS.

(Crushing Strength per Square Inch in Tons)

Beech, 3.45; Red Deal, 2.45; White Deal, 3.03; Elm (dry), 4.61; Mahogany, 3.60; English Oak (dry), .49; Dantick Oak (dry), 3.45; Pine, 2.40.

SAFE LOAD IN TONS UPON PILLARS OF DANTICK OAK.
1-10th the breaking weight.

Diam. in ins.	LENGTH OF PILLAR IN FEET.				
	8	10	12	14	16
4	3.5	2.8	2.0	1.4	1.1
5	4.5	3.5	2.7	2.0	1.4
6	5.5	4.0	3.1	2.3	1.6
7	6.5	4.5	3.6	2.7	2.0
8	7.5	5.0	4.0	3.1	2.3
9	8.5	5.5	4.5	3.6	2.7
10	9.5	6.0	4.5	3.6	2.7
11	10.5	6.5	5.0	4.0	3.1
12	11.5	7.0	5.5	4.5	3.6
13	12.5	7.5	6.0	5.0	4.0
14	13.5	8.0	6.5	5.5	4.5
15	14.5	8.5	7.0	6.0	5.0
16	15.5	9.0	7.5	6.5	5.5
17	16.5	9.5	8.0	7.0	6.0
18	17.5	10.0	8.5	7.5	6.5
19	18.5	10.5	9.0	8.0	7.0
20	19.5	11.0	9.5	8.5	7.5

MEASURES OF TIMBER.

100 superficial feet of planing...	equal 1 square.
100 deals	1 standard
30 cubic feet of squared timber	1 load.
50 feet of unwhitened timber	1 load.
600 superficial feet of mach planing	1 load.
Boards 7 inches wide	1 battens.
" 9 " " " " " " " " " "	1 deals.
" 12 " " " " " " " " " "	1 planks.

WEIGHT OF TIMBERS.

Weight per cubic foot in lbs.		Weight per cubic foot in lbs.	
Ash	38	Mahogany (Spanish) ..	66
Beech	53	Oak, English	53
Birch	44	" American	45
Box	57	Pine, yellow	36
Cedar of Lebanon	35	" red	40
Chestnut	37	" pitch	45
Cork	25	Poplar	34
Ebony	63	Sycamore	38
Elm	42	Teak	47
Fir	31	Walnut	41
" Memel	37	Yew	47
Larch	33		

LINEAL MEASURE.

1 Nail	= 2½ inches
1 Hand	= 4 inches
3 inches	= 1 Palm
1 Span, or 4 Nails ..	= 1 Foot
12 inches	= 1 Foot
3 Feet or 4 quarters ..	= 1 Yard
5 Quarters of yard ..	= 1 Ell
6 Feet or 2 yards ..	= 1 Fathom
16 Ft. 6 in. or 5½ yds ..	= 1 Rod, Pole, or Perch
4 Poles or 22 yards ..	= 1 Chain
220 Yards or 40 Poles ..	= 1 Furlong
1760 Yds or 8 Furlongs ..	= 1 Mile = 5280 feet
792 inches	= 1 Link
100 Links or 66 Feet ..	= 1 Chain
10 Chains	= 1 Furlong
80 Chains	= 1 Mile
3 Miles	= 1 League
2027 Yards	= 1 Admiralty Knot
6079½ Feet	= 1 Nautical Mile
6904 Miles	= 1 Degree (°) of lat.
6916 Miles	= 1 Degree of long. at Equ.
4308 Miles	= 1 Do. at London
The Cheshire Pole ..	= 8 Yards

SCOTCH SQUARE MEASURE.

1 square ell	100 sq. ft.	9.5177 ..	1° 50' 744473.
36 " ells	1 sq. ell ..	1 sq. chain ..	38 159799334.
40 " falls	1 " chain ..		610 412789331
40 " falls, or 2½ " chains ..	1 " road ..	= 1583 03197337	
4 " roads, or 10 " chains ..	= 1 acre ..	5760 ells =	6104 12930335

LAND MEASURE.

40 square poles	= 1 square rod
4 sq. rods, or 4,840 sq. yds ..	= 1 square acre
640 square acres	= 1 square mile
30 square acres	= 1 yard of land
100 square acres	= 1 hide of land
40 hides	= 1 barony

STATUTE OF CUSTOMARY MEASUREMENT OF

PERCHES AND ACRES.

Statute Perch ..	16 5 x 18 5 ft. = 373 25 sq. ft. or 4 840 sq. yds. = 1 a.
Devonshire and Somerset do.	15 x 15 ft. = 225 " " 4,000 " = 1 a.
Cornwall do.	18 x 18 ft. = 324 " " 5,760 " = 1 a.
Lancashire do.	11 x 11 ft. = 121 " " 7,810 " = 1 a.
Cheshire & Staff. do.	24 x 24 ft. = 576 " " 10,240 " = 1 a.
Scotch ..	18 5 x 18 5 ft. = 339 17 " = 6,350

SCOTCH LINEAL MEASURE.

8 furlongs ..	1 mile ..	5280 ..	5280 ..	5280 ..	5280 ..
10 chains ..	1 fur ..	240 ..	240 ..	240 ..	240 ..
4 fells ..	= 1 chain =	24 ..	24 8 ..	74 ..	8 028
6 ells ..	= 1 fall ..	..	6 2 ..	18 5 ..	22 7
1 ell ..	..	..	..	..	37 2

LENGTHS OF A FOOT IN DIFFERENT COUNTRIES.

Spain	Eng. lin. ..	France	Eng. lin. ..
Holland	11 03 ..	Austria	12 45 ..
Sweden	11 09 ..	Portugal	12 96 ..
America	12 00 ..	Russia	13 75 ..
Denmark and Norway ..	12 35 ..	France, metre ..	99 57 ..

LENGTHS OF A MILE IN DIFFERENT COUNTRIES.

Russia	Eng. Yds. ..	Spanish	Eng. Yds. ..
Italian	1,100 ..	German	5,068 ..
English	1,760 ..	Swedish and Danish ..	7,233 ..
Scotch	1,984 ..	Hungarian	8,539 ..
Irish	2,000 ..	Norwegian	12,400 ..
Polish	4,400 ..	French League ..	3,666 ..

STATUTE AND CUSTOMARY MEASUREMENT OF LINES, PERCHES & CHAINS.

	1 Link	Links	1 Perch	Perch	1 Chain of 100 Links
Statute Measure ..	7 92	25	16 5	4	660 0"
Devonshire & Somerset ..	7 2	25	15	4	600 0"
Cornwall ..	8 64	25	18	4	720 0"
Lancashire & Irish ..	10 08	25	21	4	840 0"
Cheshire and Stafford ..	11 52	25	24	4	960 0"
Scotch ..	8 88	25	18 5	4	740 0"

To reduce statute measure to customary, and vice versa :-
 EXAMPLES.—In 25 acres, a rood, 20 perches statute, how many acres, &c., customary measure of 15 feet to a perch?

25 acres = 700 perches = 4,100 perches.

Multiply 4,100 perches by the number of square feet in a statute perch, viz. 373 25, and divide by the number of square feet in the customary perch, viz. 324, and the result will be the statute measure when the customary or Scotch measure is given.

In many old surveys and old plans, the contents are given a local or customary measure.

SOLID OR CUBIC MEASURE.

128 cubic inches	= 1 cubic foot
27 cubic feet	= 1 cubic yard
40 cubic feet of rough or 30 cu. ft. of hewn timber ..	= 1 ton or load
40 cubic feet of timber ..	= 1 shipping ton
128 cubic feet	= 1 stack of wood
128 cubic feet	= 1 cord of wood.

144 parts	= 1 square inch.
144 square inches ..	= 1 square foot
9 square feet	= 1 square yard
2724 feet	= 1 square rod or pole
40 rods	= 1 square rood
4 roods	= 1 acre
160 rods	= 1 acre
4840 yards	= 1 acre
43560 feet	= 1 acre
10 square chains ..	= 1 acre
640 acres	= 1 square mile
1 chain wide	= 8 acres per mile length
54 inches x 100 yds ..	= square feet nearly
54 yards x 1000 ..	= acres nearly
7840 square yards ..	= 1 Irish acre
6150 square yards ..	= 1 Scotch acre

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The Intermediate Examinations are to test the Probationer's progress in Art and Science while engaged as pupil or assistant in an office. During the two years following the admission as a Probationer, he has to prepare in the Art Section of the programme seven sheets of carefully finished drawings with an illustrated memoir and in the Science Section four sheets of drawings. If these "Testimonies of Study" are approved, and if he afterwards pass the Intermediate Examination he is admitted a Student of the Royal Institute of British Architects.

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* The regulations of the Institute contain the questions set at the Examination for Architects, together with Advice to Candidates desiring to enter for the Examination, and the Regulations and Programme of the same. It also contains a list of Books of Reference, selected with a view to the subject. A Plan Calendar and particulars and forms of application, &c., can be obtained at the Office of the Royal Institute of British Architects, 9, Conduit Street, W.

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Associates shall be gentlemen who have obtained some distinction

in Literature, Science or Art, connected with Architecture, and shall be above twenty-one years of age.

Candidates for election as Members or Associates are to fill in the form of nomination pertaining to the class into which they seek admission, which form must be signed by themselves and by two Members, and shall be accompanied by a letter from one of such Members testifying as to his knowledge of the Candidate and of his worth. In the event of any Candidate not being acquainted with two Members, special application shall be made to the Council. The Council, for the time being shall, however, have power to nominate any person they may think fit for election, and to dispense with any or all of the formalities required to be observed on an application for membership.

Architects seeking admission into the Society as Members, are required to submit drawings of not less than two works they have designed and carried out, together with photographs of the completed designs.

At present the entrance fee is £3 2s., and the annual subscription £2 1s. for both classes.

The following Article will become operative after October 31st, 1896:—Subject to confirmation by General Meeting, the Council shall select from time to time certain nominations, which shall be deemed Qualifying Examinations for Membership of the Society; and persons so nominated shall be only open to Candidates, approved by the Council, who have passed any one of such Examinations, or an Examination held by the Society with the following exceptions:—

- (a) Candidates who are not less than thirty-five years of age, and have been directly engaged professionally in Architectural pursuits, as Principals, for at least seven years.
- (b) Candidates who are not less than thirty-five years of age, and have been directly engaged professionally in Architectural pursuits, as Assistants, or as Assistants and Principals for at least ten years.

THE ARCHITECTURAL ASSOCIATION, LONDON.

THE COMMITTEE, 1895-1896.

President—W. D. CARP, M.A., F.S.A.

Vice Presidents

F. J. W. Goldsmith. G. H. F. Pryme.

J. Hogg.
A. W. Earle.
O. Fleming.
F. G. F. Hooper.
Hon. A. McCausland Hogg.

Thos. Moore.
E. W. Mowbray.
W. H. Seth-Smith.
A. B. Pile.
E. Woodhouse, M.A.

Hon. Treasurer—H. W. PAUL.
Hon. Librarian. J. W. SHORROCK.

Hon. Secretaries.

B. F. Fletcher, 29, New Bridge; Alfred H. Hart, 5, Staple Inn Street, E.C.

SUBSCRIPTIONS.

Bye-Law 14.—The entrance fee of each Ordinary Member shall be two guineas, and his annual subscription one guinea, but each Ordinary Member elected prior to the first day of January, 1891 shall pay an annual subscription of half a guinea.

BIRMINGHAM ARCHITECTURAL ASSOCIATION.

Council

William Bennett (J.), President (Member R.I.B.A. Council).

C. E. Bennett, Hon. Secretary. A. Barratt, Hon. Treasurer.
C. E. Bowley. H. R. Lloyd (E.).
W. H. Biddis, Hon. Sec. at A. Council. W. H. Lloyd, Hon. Sec. at A. Council.
Vice President. F. Hart, Treasurer.
H. T. Buckland, Hon. Secretary. A. T. Powell, Hon. Auditor.
Jethro A. Coates. C. Silk, Hon. Librarian.
Alfred Hale, (J.) Hon. Auditor. J. A. Swan.
W. Hale (J.).

Hon. Secretary—H. T. Buckland, 81a, Edmund Street, Birmingham.

The Members consist of Members Architects who have been in Practice at least two years; Associates Architects not eligible as Members, Architects' Assistants and pupils; Honorary Members Persons who are not Architects, but interested in Architecture and the allied arts.

BRISTOL SOCIETY OF ARCHITECTS.**Council**Henry Crisp (*f*) *President*.E. W. Barnes (*f*).William Lockins Bernard (*f*).*Hon. Secretary and Treasurer.*Frederick R. B. B. (*f*).William Bruce Gough, *Vice-President*.

William Venn Gerigh

W. S. Paul (*f*).Thomas Shackleton Pope, *Vice-*

Frank William Wills.

Joseph Wood.

W. L. Bernard (*f*). *Hon. Secretary*, 5, St. Stephen's Chambers, Baldwin Street, Bristol.

The Members consist of: Fellows, Architects who have been in practice more than five years; Associates, Architects who have been in practice less than five years; and Architects Assistants over twenty-five years of age; Students, Persons engaged in the study of Architecture, and who are not less than sixteen years of age, and are, or have been, articled to a member of the profession.

DEVON & EXETER**ARCHITECTURAL SOCIETY.****Council**Arnold Thomas (*f*) *President*.F. Appleton (*f*), *M. Inst. C. E.*R. E. Hall Ballan, *Assist. Hon. Sec. and Librarian*

W. J. Common.

Charles Cole.

James Crocker (*f*), *Vice-President*J. Jeram (*f*)

John Morgan Pinn

C. J. Tait (*f*), *Hon. Treasurer*.Edward George Warren, *Hon. Secretary* (pre-ten), Commercial Chambers, Gandy Street, Exeter.

The Society consists of three classes—viz., Members, Associate Members, and Associates, who are engaged as Architects and Surveyors, and not connected with any of the Building Trades. Members are Architects in practice on their own account or in partnership. Associate Members must have qualified for the Association R.I.B.A., or have served as assistants for not less than five years in the office of an Architect eligible as a Member; except at the election of the Council, they have full voting powers, but are not eligible for election on the Council. Associates include assistants who have duly served articles, and premiated pupils now in articles. Associates enjoy all the privileges of membership except that of voting. Honorary Members may be elected at any general meeting on the recommendation of the Council.

LEEDS & YORKSHIRE**ARCHITECTURAL SOCIETY.****Council**E. J. Doghbin (*f*), *President* (Member R.I.B.A. Council).W. H. Bevers (*f*), *Hon. Librarian* W. Carly Hall (*a*) *Vice President*.W. S. Bevan (*f*).

Harry B. Buckley.

H. S. Chorley, B.A., *Auditor*.

G. F. Dandy.

L. S. Doghbin, *Auditor*.

W. H. Greaves.

Francis W. Bedford (*a*), 19, East Parade, Leeds, *Hon. Secretary*

The Past Presidents are also Members of Council, viz., George Corson, J. B. Fraser (*f*), E. Birchall (*f*), C. R. Chouley (*f*), Henry Perkins (*f*), W. H. Thorpe (*f*), and G. H. Hulmer (*f*).

The Members consist of: Members, Architects who have been in practice at least two years prior to election; Associates, Architects' assistants, pupils, or Architects who are not eligible as Members, or who have not been nominated as Members; and Honorary Members; Persons interested in the arts and sciences associated with Architecture.

LEICESTER AND LEICESTERSHIRE SOCIETY OF ARCHITECTS.**Council**J. Goodacre (*f*), *President* (Member R.I.B.A. Council).

C. Baker.

T. H. Forster.

A. H. Paget (*f*).Stockdale Harrison (*f*), *Hon.**Treasurer*Albert Edwin Sawday (*f*).S. Perkins Esq., *Hon. Sec.* (*a*), 6, Milborne Lane, Leicester.

The Members consist of four classes, viz.:—Hon. Members: retired Architects and others; Full Members: Architects who have been engaged for not less than three years as principals; Associate Members: Architects not eligible as Full Members, or Architects R.I.B.A.; and Assistants or Pupils: Members' assistants or pupils not less than sixteen years of age, in the office of an Architect, Surveyor, or Civil Engineer in practice in the counties of Leicester or Rutland.

LIVERPOOL**ARCHITECTURAL SOCIETY.****Council**A. Culshaw (*f*), *President* (Member R.I.B.A. Council).J. W. Binks (*a*), *Hon. Librarian*, T. W. Haugh.Thomas Cook (*f*).James Dink, *Hon. Treasurer*.T. Harcourt Harrison (*f*).H. Harley (*f*).H. W. Kent, *Vice-President*T. Willard Steele (*f*)

Professor Symon

J. Woodall, *Vice-President*.Henry L. Beckwith, *Hon. Sec.*, 3, Cook Street, Liverpool.

The Members consist of five classes, viz.—Fellows: Architects engaged as principals not less than three years; Professional Associates: Architects' assistants, and Architects not eligible as Fellows; Students: persons engaged in the study of Architecture; and two other classes.

MANCHESTER**SOCIETY OF ARCHITECTS.****Council**John Holden (*f*), *President* (Member R.I.B.A. Council).J. W. Deamont (*f*), *Auditor*.E. T. Dimes (*f*).Thomas Chadwick (*a*).A. H. Davies-Colley (*a*).John Ely (*f*) *Vice-President*.R. Knill Freeman (*f*), *Vice-Pres.*C. H. Heathcote (*f*), *Auditor*.Edward Hewitt (*f*), *Assist. Lib.*Thomas Worthington (*f*).Pavel Ogden (*f*), *Hon. Sec. & Treasurer*, 60, King Street, Manchester.

The Members consist of Fellows who have been engaged in practice at least five years, who are entitled to use the title F.R.S.A.; Associates, who are at least twenty-three years of age, engaged in the study or practice of architecture as a profession, and who are entitled to use the title A.M.S.A.; Students, who are under twenty-three years of age and are engaged in the study of architecture either as assistants or pupils. The Council meet every month, and General Meetings of the Society are held every three months.

NORTHERN**ARCHITECTURAL SOCIETY.****Council**Joseph Oswald (*f*), *President* (Member R.I.B.A. Council).

G. T. Brown.

J. T. Brown.

V. E. Caws (*f*).H. C. Chatterwood, (*a*) *Hon. Lib.*

R. D. D. Auditor.

C. S. Errington.

W. Glover, *Auditor*.H. C. Harvey, *Hon. Solicitor*J. H. Harvey (*f*).

W. S. Hicks

J. H. Morton (*f*).

J. H. R. Vice-President.

John William Taylor (*f*).Arthur B. Plummer (*f*), *Hon. Sec.*, 13, Grey St., Newcastle-on-Tyne.

The Association consists of four classes, viz.—Members: Architects in practice as principals, or as town or county Architects, and who have so practised for not less than three consecutive years immediately preceding their nomination. Associates: Architects not yet eligible as members, or assistants (over twenty-one years of age). The officers of gentlemen eligible as Members or Associates, Students: persons under twenty-one years, engaged in the study of Architecture in the offices of gentlemen eligible as Members or Associates; and Honorary Members. Honorary Membership is conferred on gentlemen eminent for distinguished attainments on the recommendation of the Council.

NOTTINGHAM ARCHITECTURAL SOCIETY.

Council

John Hewitt (*J.*), *President*.

A. W. Brewell (*J.*), *Auditor*.

Albert N. Bromley (*J.*), *Vice*.

A. R. Calvert.

A. Harrison Goodall

Frank B. Lewis.

W. D. Pratt

John Sanford, *Auditor*

Herbert Walker (*J.*).

A. Ernest Hazell, *Hon. Sec. and Treasurer*, Bank Chambers, Market Place Nottingham

The members consist of three classes, viz.—Members: Architects engaged as principals not less than two years; Associates: Architects not eligible as members. Architects' assistants and articled pupils, and Honorary Members gentlemen distinguished for their attainments.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYS.

Council

Charles Hadfield, *President* (Member R.I.B.A. Council)

W. C. Fenton.

Thomas J. Flockton.

Frederick Fowler, *Hon. Treasurer*.

R. W. Fowler, *Vice-President*

E. M. Gibbs.

W. H. Lambourne

H. W. Lockwood.

J. N. Litch

I. Winder

C. J. Innocent (*J.*), *Hon. Sec.*, 17, George Street, Sheffield

The members consist of five classes—Fellows, Associates, Students, Honorary Members, and Lay Members. The Fellows are practitioners who have been engaged as principals for not less than five years in their profession, the Associates are principals or assistants over twenty-one years of age, the Students are articled pupils, the Honorary Members are persons distinguished for their connection with art and science; the Lay Members are gentlemen not practising but interested in Architecture or Surveying, and not following any of the Building Trades.

THE YORK SOCIETY.

Council

Henry Perkins (*J.*), *President*.

G. Senon

A. H. Claypole

W. Hepper.

A. Hine.

John Lane, *Vice-President*.

J. T. Page.

W. G. Panty (*J.*).

A. Pollard

A. P. Sloss

A. W. Turner, *Vice-President*.

W. E. Walker, *Librarian*.

N. R. Youmans, *Hon. Treasurer*

A. B. Barley, *Hon. Secretary*, 8, Bowley Street, York.

The members consist of three classes, viz.—Members: Architects who have been in practice more than two years, or held chief public appointments; Associates: Students of Architecture, Assistants, or others in the profession who are not eligible as members. Honorary Members: Gentlemen distinguished for their attainments as artists or who have an indirect interest in Architecture, or in some of the collateral arts and sciences.

ARCH. COM. M M

THE CARDIFF, SOUTH WALES, AND MONMOUTHSHIRE SOCIETY.

Officers

E. M. Bruce Vaughan (*J.*), *President*.

J. Coates Carter, *Hon. Sec. and Treasurer*, Bank Buildings, St. Mary Street, Cardiff

C. L. Wilson, *Hon. Assistant Sec.*

The Society consists of Members, Associates, and Honorary Members. Members must be practising Architects, not combining any other business with their profession of Architecture, except those of land and quantity surveying, land agency, and valuing and civil engineering, and must either have served articles to Architects of recognised qualifications, or be members of the R.I.B.A., or be elected at a meeting at which three-quarters of the members of the Society are present. Honorary Members of the Society may be Architects of distinction not practising in South Wales and Monmouthshire, and also gentlemen of recognised knowledge and taste in Architecture and the kindred arts. Associates of the Society may be Architects' assistants or pupils who have served or are under articles in qualified Architects.

ROYAL INSTITUTE OF ARCHITECTS OF IRELAND.

Council

Thomas Drew (*J.*), R.H.A., *President*, (Member R.I.B.A. Council).

George C. Ashlin, R.H.A.

James Dawson Carroll (*J.*)

Sir T. N. Deane, R.H.A.

Charles Gough

C. J. McCarthy

R. Clayton Miller (*J.*)

William M. Mitchell, R.H.A.

Albert E. Murray (*J.*), *Hon. Sec.*

Sec. and Treasurer

J. J. O'Callaghan

W. K. Parry

J. H. Penland

Albert E. Murray (*J.*), R.H.A., *Hon. Sec. and Treasurer*, 17, Dawson Street, Dublin.

The Members consist of Fellows: Architects of good repute engaged in practice for at least seven years, and elected from the class of Members; Members: Architects of good repute, who have been in practice at least five years, or who have been articled for not less than three years to a Member of the Royal Institute of the Architects of Ireland, or the Royal Institute of British Architects, or of the Societies allied with it, or have passed the Associate Examination of the R.I.B.A. for the time being, and have attained the age of twenty-one years; Honorary Members and Honorary Corresponding Members: persons eminent for their works or scientific acquisitions, not being British subjects.

THE DUNDEE INSTITUTE.

Council

Robt. Keith, *President*

T. M. Cuppon, *Auditor*.

G. A. Harris, *Auditor*.

J. McFarlane

William Nixon.

James Watson, *Auditor*

G. G. MacLaren

Leslie Owen (*J.*), *Vice-President*.

Hon. Secretaries:

J. J. Henderson, 8, Bank Street, Dundee (and Treasurer)

Geo. Jamieson, 10, Whitehall Street, Dundee

The Institute is composed of residents in Dundee and vicinity, in three classes viz.—Members: Gentlemen who have been engaged professionally in the practice of architecture, the applied sciences, or the fine arts for a period of not less than seven years; Associates: Gentlemen not eligible as Members, but who are studying architecture or who take an interest in the objects of the Institute; Honorary Members, who may be elected by the Council.

GLASGOW INSTITUTE OF ARCHITECTS.

Committee.

Thomas Lennox Wilson (1), *President (Member R.I.B.A. Council)*
G. Ball
J. J. Burnett (2), *A.R.S.A., Vice-President*
A. G. Thomson
Henry E. Clifford
John Koppin
J. M. Minto
David Thomson, *Auditor*
J. Thomson
J. R. W. Scott (3)

C. J. MacLennan, *Secretary*, 115, St. Vincent Street, Glasgow

This Society consists of one grade of members only, composed of Architects engaged in practice as principals; persons who have served for 2 years, at least, as apprentices, or assistants with members or with persons qualified to become such; and members of other Architectural bodies. They must be nominated by two members approved by the Council, and must sign a form of Declaration as to their education and professional practice.

ROYAL ACADEMY OF ARTS.

INSTRUCTIONS FOR ADMISSION OF STUDENTS.

Each candidate to be a student in Architecture shall submit to the Council the following drawings—A geometric elevation of some part of an existing building (which may be copied from published drawings or printed) in which some part of the ornament or other features shall be drawn in freedom; geometric elevations of the Doric, Ionic, and Corinthian Orders, with their Entablatures complete, to 1 in. scale, the columns to be 24 feet high; an original Perspective Sketch in pencil of an existing building, or part of a building, on a quarter-sheet of imperial paper, and a drawing of a piece of Architectural Ornament from a cast, shaded in pencil or chalk, or tinted, and of the same of the original.

All the drawings required must be on paper, and unmounted.

No one is eligible for admission to the schools of the Royal Academy who is more than twenty-five years of age on the date fixed for the delivery at the Academy of Works for Probationership. Applicants for admission must obtain from the Registrar, through the written request of any Member of the Academy, or other artist or person of known respectability, a printed form, to be filled up and delivered at the Royal Academy, together with a certificate of birth and the required specimens of ability, on or before January 1st or July 1st. They must also send a certificate from an Architect, member of the Royal Academy, of the Royal Institute of British Architects, or any public Institution for teaching Art and Science, certifying that the applicant has followed up the study of Architecture and Architectural Drawing, and has acquired a fair degree of proficiency in the work.

KING'S COLLEGE, LONDON.

Session 1895-1896.

CLASSES OF ARCHITECTURE, BUILDING CONSTRUCTION AND MODERN PRACTICE.

FROM ROYAL BANISTER FLETCHER, (1)

SYLLABUS OF THE DAY CLASSES.

Occasional students may join any or all of the classes. It is desirable, however, when time permits, that they should go steadily through the courses, and take the three years to do so.

Fees—The fees for occasional students are as follows:—For the Elementary Course, £7 7s. 6d. per term, £22 12s. 6d. For the Advanced Course, £7 7s. 6d. per term, £22 12s. 6d. For the Final Course, £1 1s. 6d. per term, £2 12s. 6d.

Prizes—An exhibition will be held at the end of each course, and certificates, medals, and prizes will be awarded. The Worshipful Company of Carpenters also gives gold, silver, and bronze medals. Mr. Arthur Cates—Vice-President of the Royal Institute of British Architects—also gives a silver medal.

The terms courses of eleven lectures each, and are delivered once a week for each course as follows:—Elementary Course, Mondays, 4 to 5 p.m.; Advanced Course, Mondays, 4 to 5 p.m.; Final Course, Fridays, 4 to 5 p.m.

* On a few occasions, of which previous notice will be given to the Class, the lectures will not be delivered on the regular evening, but on an evening to be arranged with the Class.

The terms are arranged as follow

Students may join at any time, but no student is allowed to defer a term. Students may join at any time, but no student is allowed to defer a term. Students may join at any time, but no student is allowed to defer a term.

THE ARCHITECTURAL STUDIO

B. F. FLETCHER (2), *Instructor*.

The Architectural Studio is open every day (Saturday excepted) from 9 a.m. till 9 p.m., students being allowed to follow any special studies. The studio is particularly adapted to meet the requirements of those qualifying for the Testimonials of Study and finished Drawings as required by the R.I.B.A. for admission into the Royal Academy, the Royal Engineers, and the Surveyors' Institution, also for the preparation of Drawings for the Honorary Course in Building Construction, South Kensington, and other public bodies.

The Studio being open day and evening has proved of especial benefit to those who are engaged in offices, and who desire to supplement and extend the knowledge of the designing of buildings, including details and working drawings.

Subjects are set by the Instructor from time to time, and help is given in the practical designing and details of complete buildings. Fees £2 2s. 6d. per term, £2 2s. 6d. for the year. Students of limited means are on application to the Worshipful Company of Carpenters, London Wall admitted at half fees. Prizes, Gold Silver and Bronze Medals are awarded.

SYLLABUS OF THE EVENING CLASS.

Lectures and classes on ARCHITECTURE AND BUILDING CONSTRUCTION are held on Monday evenings from 7 to 9 p.m., and will comprise subjects in which candidates are examined at the Royal Institute of British Architects' examinations; the examination for membership of the Society of Architects; Examination for Professional Association of the Surveyors' Institution. Fee £1 1s. for each term or £2 12s. 6d. for the course of three terms. The Worshipful Company of Carpenters and Surveyors' Institution prizes in books and Certificates. The Alderman Pender Phillips medal is also given for Sanitary Building Construction.

CONSTRUCTIONAL DRAWING CLASSES are held each Monday and Friday from 8 to 9 p.m. The Students are taught the preparation of Working and Detail Drawings of the various subjects dealt with by the Professor in his Lectures, also Building Construction Drawing and details of all the several trades. Fee £1 1s. for each term, £2 12s. 6d. for the course of three terms. Prizes in books and Certificates are awarded at the end of the academic year.

A Class for instruction in QUANTITIES is held every Friday evening from 6 to 7 p.m. The Students will be instructed how to prepare a complete set of measurements, square and abstract plans, and complete the Bills of quantities for a building from an example in accordance with the London Practice. Fee £1 1s. for each term, £2 12s. 6d. for the full course of three terms, £2 12s. 6d. Prizes in books and Certificates are awarded at the end of the academic year.

Students of limited means are (on application to the Worshipful Company of Carpenters, London Wall) admitted at half fees. Students attending the various classes have the use of the Library belonging to the Worshipful Company of Carpenters.

UNIVERSITY COLLEGE, LONDON.

THE CLASSES OF ARCHITECTURE AND CONSTRUCTION.

From October, 1895, to June, 1896.

PROFESSOR T. ROGER SMITH, (1)

SYLLABUS

The treatment of this subject is divided into two separate Courses: A and B.

A.—ARCHITECTURE AS A FINE ART. B.—ARCHITECTURE AS A SCIENCE.

Each of the courses A and B consists of Thirty Lectures in the year, divided into three terms of ten lectures each, one of which will be delivered every week, viz.—A. Every Tuesday, from 6 to 7 p.m. B. Every Wednesday from 6 to 7 p.m.*

Fees—For the courses A and B £12 12s. for each term, £2 12s. 6d. for the course A or B, £2 12s. 6d. for the course B. Drawing Classes for Architectural Drawing and Building Construction, established by the Carpenters Company are held on the evenings of Monday, Tuesday, and Wednesday, from 7 to 9 p.m., during each term. Fees For each term, 10s. 6d. See the section, 22s.

A class for Quantity Surveying is held on Thursday evenings from 7 to 9 p.m., October to March. Fees For each term, 12s. 6d., for two terms, 22s.

APPLIED ART

From October to March

MR. HUGH STANNUS, (f.), LECTURER

There will be two Courses, each consisting of Ten Lectures, which will be given in the Library of the Slade School, on Tuesdays and Thursdays, from 5 to 6 p.m.

A - Ornament and its Application

B - Decoration

Fees.—For A or B, £1 1s. 1 for both, £1 12s. 6d.

ROYAL ARCHITECTURAL MUSEUM

AND

WESTMINSTER SCHOOL OF ART.

In connection with the Science and Art Department.

28, TUFTON ST., DEAN'S YARD, WESTMINSTER, S W

President—HIS GRACE THE DUKE OF WESTMINSTER

Hon. Secretary—MAURICE B. ADAMS (f.)

Curator and Assistant Secretary—FRANCIS FORD

The Royal Architectural Museum is open Free Daily, from 10 a.m. to 4 p.m., on Saturdays till 6 p.m., on visitors entering their names and addresses in a book provided for that purpose. Subscribers, and friends holding their orders, have the privilege of drawing from the objects in the Museum.

WESTMINSTER SCHOOL OF ART.

Teaching Staff

Drawing and Painting from the Life and Antique—MOUNT LODDAM.

Elementary Drawing, Descriptive Painting, Design, Applied Art, and

Drawing from the Antique—J. HOLGATE.

Modelling and Architectural Decoration—F. E. E. SCHERCKE.

Evening Classes are held at the Royal Architectural Museum on Monday, Wednesday, and Friday, for Freehand and Model Drawing, Building Construction, Modelling, Drawing from the Antique and from the Life. There are also Day Classes and a Saturday Class for Drawing from the Life.

Ladies' Day Classes for Drawing from the Life are held on Monday, Wednesday, and Friday; Evening Classes for Drawing from the Life on Tuesday and Thursday; Day Classes classes on Tuesday, Thursday, and Saturday, and there is also a Ladies' Class for Still Life Painting on Saturday afternoon.

Provision is made for payment of the fees of a certain number of students, workmen resident in the City of Westminster, or the area of each workman.

Prospectuses and further information may be obtained of Mr. Francis Ford, Curator and Assistant Secretary, either by letter or by personal application at any Class Evening.



Acts of Parliament regarding Injunctions of the Law 1895.

Compiled by John Warburton, Solicitor

AIR.

UNDEFINED PASSAGE OF AIR.

Every man has a natural right to enjoy the air pure, and free from noxious smells or vapours, and anyone who sends on his neighbour's, and that which makes the air impure is guilty of a nuisance, but a man must not impose an obligation on his neighbour, by having a want of proper ventilation on his own premises. An interference with air which is not otherwise actionable cannot be restrained on the ground of nuisance. Unless the right to have a free passage of air over the land of another has been acquired by lapse of time, the mere diminution of quantity is not a nuisance at law. An undefined passage of air is too vague to form the subject matter of a grant or prescription of a grant.—(*Cartley v. A. Wickland*, 1893, 2, Ch. 350, 72, L. T., 845.)

ANCIENT LIGHTS.

1.—ENJOYMENT FOR MORE THAN NINETEEN YEARS.

In an action to restrain the interference with the plaintiffs' rights by the defendants building upon the vacant sites for four old houses known as Nos. 72, 73, 74, and 75, which had been pulled down in 1875, it appeared that No. 75 had been pulled down before the end of June, 1875, the others in October of the same year. This action was commenced in July, 1895. The enjoyment of light on which it was founded was that which the plaintiffs had enjoyed since the pulling down of the houses respectively. Sec. 3 of the Prescription Act (2 and 3 Vict., c. 73, Sec. 3 and 4), gives an absolute right to light after twenty years' enjoyment without interruption, and Sec. 4 defines interruption to mean interruption for a whole year. It was argued that the plaintiffs were entitled to an injunction with respect to the buildings on the sites of all the old houses, because, though light had not been enjoyed over the sites of Nos. 73, 74, and 75, for fully twenty years, it was plain that there could not now be any interruption within Sec. 4 before the end of twenty years (*Flight v. Thomas*, 3 C. & F. 101, 221). It was held, that the court would not grant an injunction to protect the incroachment. The injunction was granted as to the site of No. 72, in which case the full twenty years had elapsed, but as to Nos. 73, 74, and 75, the defendants were only restrained from building above the height of the buildings pulled down in 1875. The decision in *Geoprosors of Bridesell Hospital v. Ward, Lock, and Co* (32 L. T. Sup. 21, followed. *Lord Battersea v. The Commissioners of Sewers*—(*Law Times*, Aug. 3, 1895, W. N. 137, 13).

2.—VIOLATION OF RIGHT-TO-LIGHT.

On May 23rd A wrote to B complaining of building D was erecting as interfering with ancient light. On May 24th A commenced an action. B evaded service till May 28th, and in the meantime burned on the building and carried it up to its full height. Held that A was entitled to a mandatory injunction as to that part of the building erected between May 24th and 28th.—(*Foot v. Horner*, C.A., 1895 W.N. 121.)

3.—HOUSE UNFURNISHED TWENTY YEARS BEFORE ACTION.

A house having, twenty years before action brought, been structurally completed, the windows being placed, the joists laid, and the roof slaid, but the window-sashes being not then in, and it being otherwise

wise not completed internally, so as to be fit for habitation, an injunction was granted to restrain an interference with the access of light to the windows.—(*Collis v. Langer*, 1894, 2, Ch. 659; 63, L. J., Ch. 531; 71, L. T., 226, 43, W. R., 202).

4.—SKELETON CASE, ON IN THE 1895.

The plaintiff was the owner of a house in East London, the top story or loft of which was lighted by four large skylights in a sloping roof, which were ancient lights. The loft was at present used as a builder's shop or store-room, but was suitable for use as a carpenter's shop, or such-like purposes. The defendants were about to erect, on the adjoining land, a lofty warehouse which, if appeared, would materially obstruct both the lateral and the vertical light to the loft through the skylights.

Rolfe, J., in giving judgment, said that, except as to the incidence of light, there was no difference in principle, or in fact, between skylights and windows of any other character, and that it was extremely valuable to a room lighted by skylights to have lateral as well as vertical light; and he held that the plaintiff was entitled to have the uninterrupted access of light, through his ancient skylights for any purposes, such as a carpenter's shop, for which the loft might be used, and accordingly granted a perpetual injunction with costs.—(*Harris v. Kinnoch & Co*, 1895, W. N. 56).

5.—DISCRETION AS TO GRANTING INJUNCTION—LORD CAIRNS' ACT.

Where the plaintiff's ancient lights have been obstructed to a substantial extent by a new building, and will be still further obstructed by the carrying out of the building scheme, the plaintiff *prima facie* is entitled to an injunction to restrain such further obstruction, the Court having no discretion to award damages in lieu thereof. The Court of Appeal, however, awarded damages in lieu of the obstructed access by the part of the building already erected.—(*Martin v. Price*, 1894, 1, Ch. 275, 63, L. J., Ch. 209; 70, L. T., 201, 43, W. R., 202).

[See also under "Injunction or Damages," page 533.]

BUILDING CONTRACT.

1.—ARCHITECT'S CERTIFICATE.

The plaintiffs contracted with the defendant to build shops and premises in College Street, Swansea, at the price of about £4,000. The Form of Contract adopted was that issued by the National Association of Master-Builders Liverpool. The builders claimed to have completed the work in or about April, 1894. The defendant, however, would not admit that the works were completed, and from time to time sent lists of additional work, which the plaintiffs at once carried out. The defendant still contended that the works were not completed, and also objected to the amount of various items in the plaintiffs' account of extras. Ultimately he gave the architects full details of his objections and the architects thereupon measured up the work, and on the 14th June granted a final certificate under Clause 20 of the contract. The defendant then repudiated the certificate, and claimed that he was entitled to go to arbitration. Under these circumstances the plaintiffs commenced an action for the amount due upon the final certificate. The case was tried before Mr. Justice Lawrence, who gave judgment for the plaintiffs, holding that Clause 20 was not subject to the operation of Clause 13, and that

* These Clauses 20 and 13 of the Conditions of Contract referred to are identical with Clauses 13 and 20 of the Institute Paper (now superseded) of "Standard Conditions" (see p. 304 of the Journal).

FACTORY AND WORKSHOP ACT, 1901.

(58 & 59 VICT. CH. 37.)

Sec. 1.—(1) A factory shall for the purpose of section three of the principal Act, and a workshop shall for the purpose of the law relating to public health, be deemed to be so overcrowded as to be dangerous or injurious to the health of the persons employed therein, if the number of cubic feet of space in any room therein bears to the number of persons employed at once in the room a proportion less than two hundred and fifty or, during any period of overtime, four hundred, cubic feet of space to every person.

(2) Provided that the Secretary of State may, by order made in accordance with section thirty-five of the principal Act, modify this provision for any period during which artificial light other than electric light is employed for illuminating purposes, and may by like order, as regards any particular manufacturing process or handiwork substitute for the said figures of two hundred and fifty and four hundred respectively any higher figures, and thereupon this section shall have effect as modified by the order.

(3) Section seventy-eight of the principal Act shall be read as if there were included among the notices required by that section to be affixed a notice specifying the number of persons who may be employed in each room of the factory or workshop by virtue of this section.

Secs. 2 to 9 *certain provisions for orders as to dangerous factory or workshop, notices to sanitary authority, orders as to dangerous work, penalties for employment of persons in places superior to health and for allowing moving apparatus to be used in places where there is infectious disease, and an amendment of 41 and 42 Vict. c. 18, s. 5, as to fencing, an Amendment of 41 and 42 Vict. c. 16, s. 2, as to restrictive clauses of machinery in motion, and a regulation as to position of self-acting machine.*

Sec. 10.—(1) A court of summary jurisdiction may on complaint by an inspector, and on being satisfied that the provision of a movable fire escape or movable fire escapes is requisite for the safety of the persons employed in a factory or workshop, or order require the occupier of the factory or workshop to provide and maintain a movable fire escape or movable fire escapes sufficient for that purpose.

(2) While any person employed in a factory or workshop is within the factory or workshop for the purpose of employment or waits the doors of the factory or workshop, and of any room therein in which any person so, shall not be locked or bolted or fastened in such a manner that they cannot be easily and immediately opened from the inside.

(3) In every factory or workshop the construction of which is commenced after the commencement of this Act, the doors of each room in which more persons than two are employed, shall, except in the case of sliding doors, be constructed so as to open outwards.

(4) Sub-section one of section seven of the Act of 1861 shall apply to all workshops the construction of which is commenced after the commencement of this Act, and in which more than forty persons are employed, in like manner as it applies to factories, and sub-section two of that section shall apply in all workshops to which the foregoing provision of this section does not apply, in like manner as it applies to factories.

(5) For the purpose of enforcing the provisions of section seven of the Act of 1861 with respect to fire escapes, an inspector may give the occupier notice and take the like proceedings as under section four of the principal Act and section two of the Act of 1891, and the provisions of those sections shall apply accordingly.

(6) If there is any contravention of an order under this section the occupier of the factory or workshop shall be liable to a fine not exceeding forty shillings a day during such contravention, and a factory or workshop in which there is a contravention of the requirements of this section shall be deemed not to be kept in conformity with the principal Act.

Sec. 11.—(1) An application to refer, under section seven of the Act of 1891, a difference as to a notice by a sanitary authority or by the London County Council must be made within one month after the time when the difference arises.

(2) Where such a difference is referred to arbitration, the notice of the sanitary authority or council shall be discharged, amended, or confirmed in accordance with the award in the arbitration.

Sec. 12.—Where any matter in difference is referred to arbitration under section eight of the Act of 1891, the arbitrator or umpire, or on the application of any of the workmen employed in the class of any, as may appear to the arbitration referee, and on such security, if any, as may be required by the arbitrator or umpire, may appoint one or more persons to represent the workmen, or any class of them, on the arbitration, and any person appointed shall be entitled to sit and vote, and to take part in the proceedings of the arbitration either in person or by his counsel, solicitor, or agent to such extent and in such manner as the arbitrator or umpire may direct, and shall be subject to the same

liability with respect to such costs as aforesaid as if he were a party to the arbitration.

Sec. 13 contains an extension of 41 and 42 Vict. c. 16 s. 2, to death or injury caused by neglect of Act or special rules.

Secs. 14 to 21 *certain provisions as to employment, holidays and accidents.*

Sec. 22.—(1) In the case of every laundry worked by steam, water, or other mechanical power, the following provisions shall have effect:

- (a) A fan or other means of a proper construction shall be provided, maintained, and used for regulating the temperature in every room, and for carrying away the steam in every wash-house in the laundry; and
- (b) All stoves for heating rooms shall be sufficiently separated from any room, and gas works emitting any noxious fumes shall not be used; and
- (c) The floors shall be kept in good condition and drained in such manner as will allow the water to flow freely.

A laundry in which these provisions are contravened shall be deemed to be a factory not kept in conformity with the principal Act.

(2) Nothing in this section shall apply to any laundry in which the only persons employed are—

- (a) inmates of any prison, reformatory, or industrial school, or other institution for the time being subject to inspection under any Act other than the Factory Act; or
- (b) inmates of an institution conducted in good faith for religious or charitable purposes; or
- (c) members of the same family dwelling there, or in which not more than two persons dwelling elsewhere are employed.

(3) Women employed in laundries may work overtime, subject to the following conditions:—

- (a) No woman shall work more than fourteen hours in any day.
- (b) The overtime work shall not exceed two hours in any day.
- (c) Overtime shall not be worked on more than three days in any week, and more than thirty days in any year.
- (d) The requirements of section sixty-two of the principal Act and of section fourteen of the Act of 1891 with respect to notices shall be observed.

Sec. 23.—1. The following provisions, namely:

- (1) Section eighty-two of the principal Act.
- (2) The provisions of the Factory Act with respect to accidents.
- (3) Section sixty-eight of the principal Act with respect to the powers of inspectors.
- (4) Sections eight to twelve of this Act of 1901 with respect to special rules for dangerous employment; and
- (5) The provisions of this Act with respect to the power to make orders as to dangerous machines

shall have effect as if—

- (a) every dock, wharf, quay, and warehouse, and, so far as relates to the process of loading or unloading therefrom or thereto, all machinery and plant used in that process, and
- (b) any premises on which machinery worked by steam, water, or other mechanical power as temporarily used for the purpose of the construction of a building or any structural work in connection with a building,

were included in the word factory, and the persons for whom the machinery and plant was used were included in the word person, whether by himself, his agents or workmen temporarily uses any such machinery for the before mentioned purpose were the occupier of the premises, and for the purpose of the enforcement of those provisions the person having the actual use or occupation of a dock, wharf, quay, or warehouse, or of any premises within the same or forming part thereof, and any person so using any such machinery, shall be deemed to be the occupier of a factory.

(2) The provisions of this Act with respect to notice of accidents and the funeral investigation of accidents shall have effect as if—

- (a) any building which exceeds thirty feet in height, and which is being constructed or repaired by means of a scaffolding; and
- (b) any building which exceeds thirty feet in height, and in which more than twenty persons, not being domestic servants, are employed for wages;

were included in the word "factory," and as if, in the first case, the employer of the persons engaged in such construction or repair, and, in the second case, the occupier of the building, were the occupier of a factory.

General Provisions.

Sec. 24.—(1) Where mechanical power is supplied to different parts of the same building occupied by different persons for the purpose of any manufacturing process or handicraft, or in such manner that there is no joint construction in law separate factories, the owner (whether or not he is the person who is the occupier of the building) shall be deemed to be a person who is the occupier of the building, and shall, instead of the occupier, be liable for the observance, and punishable for non-observance of the following provisions, namely:—

(a) Section three of the principal Act, with respect to the sanitary condition of a factory, and

(b) Sections five and eight two of the principal Act, with respect to the feeding of machinery in a factory, except so far as those sections relate to such parts of the machinery as are supplied by the occupier, and

(c) Save as hereinafter provided sections sixteen of the principal Act, with respect to the notices to be affixed in a factory, and the matters to be ascertained thereon, and

(d) Section thirty three of the principal Act, with respect to the fireworkings and wadding of the interior of a factory, so far as it relates to any engine house, passage, or staircase, or to any room which is let to more than one tenant, and

(e) Section thirty-six of the principal Act, with respect to the removal of dust, so far as that section requires the supply of pipes or other contrivances necessary for working the fan or other means for that purpose, and except in textile factories, and

(f) Section seventy-eight of the principal Act, with respect to the affixing of an abstract and notice.

(2) Where different industries are carried on in the same tenement factory the obligation to affix the notice required by section sixteen of the principal Act shall be on the occupier and not on the owner.

(3) Sections eight to eleven of the Act of 1891, shall, in and as far as the case of a tenement factory the Secretary of State by order in respect, apply as if the owner of the factory were substituted for the occupier.

(4) The provisions of this Act with respect to the power to make orders in the case of dangerous premises shall, apply in the case of a tenement factory as if the owner were substituted for the occupier.

(5) Where, by or under this section, the owner of a tenement factory is substituted for the occupier with respect to any provisions of the Factory Act, any summons, notice, or proceeding, which for the purpose of any of those provisions is by the said Acts or any of them authorized or required to be served on or taken in relation to the occupier, is hereby authorized or required (as the case may be) to be served on or taken in relation to the owner.

(6) For the purposes of the provisions of this Act with respect to tenement factories all buildings within the same close or curtilage shall be treated as one building.

(7) This section shall not apply in the case of any occupier paying a rent in excess of two hundred pounds a year.

Sec. 35.—(1) Where grinding is carried on in a tenement factory, the owner of the factory shall be responsible for the observance of the regulations set forth in the First Schedule to this Act.

(2) In every such tenement factory it shall be the duty of the owner and of the occupier of the factory respectively to see that such parts of the hoisting chains and of the hooks to which the chains are attached are supplied by them respectively are kept in efficient condition.

(3) In every tenement factory where grinding or cutting is carried on the owner of the factory shall provide that there shall at all times be instantaneous communication between each of the rooms in which the work is carried on and both the engine-room and the boiler room.

(4) A tenement factory in which there is any contravention of this section shall be deemed not to be kept in conformity with the principal Act, but for the purposes of any proceeding in respect of a provision of which the observance of which the owner of the factory is responsible that owner shall be substituted for the occupier of the factory.

(5) This section shall not apply to a textile factory.

Sec. 36.—A certificate of the fitness of any young person or child for employment in a tenement factory shall be valid for his similar employment in any part of the same tenement factory.

Sec. 37.—(1) Sections thirty-four and thirty-five of the principal Act shall apply to every workhouse, and so much of those sections as limits the operation thereof to cities, towns, and places having a population of more than five thousand persons shall be repealed.

(2) In section fifteen of the Factory and Workshop Act, 1891, the words, "which was not so let in occupied before the first day of June, one thousand eight hundred and eighty-three" shall be repealed.

(3) A place under a lease shall not be used as a workhouse unless it is so used at the commencement of the Act and if any place is so used in contravention of this Act it shall be deemed to be a workshop not kept in conformity with the principal Act.

(4) No contract shall be made which is prohibited or restricts employment in dangerous trade.

Sec. 38.—No contract provisions for mitigation of certain diseases in chief respect.

Sec. 39.—(1) In every factory or workshop where lead, arsenic, or any other poisonous substance is used, suitable use shall be made of the provisions of the Act for the purpose of the persons employed in any department where such substances are used.

(2) A factory or workshop in which there is a contravention of this section shall be deemed not to be kept in conformity with the principal Act.

Sec. 40.—(1) The Cotton Cloth Factories Act, 1889, shall apply to every textile factory in which atmospheric humidity is artificially produced by steam or other mechanical appliances and which is not for the time being subject to special rules under section eight of the Act of 1891, with such modifications of the schedule with respect to the matters on which humidity is the Secretary of State by order made in accordance with section sixty-five of the principal Act may direct.

(2) In section nine of the Cotton Cloth Factories Act, 1889, the words "and the arrangements for such ventilation shall be kept in operation subject, as far as possible, to the control of the persons employed therein," shall be repealed.

(3) Section eleven of the Cotton Cloth Factories Act, 1889, shall be taken for securing and maintaining a reasonable temperature in each room in which any person is employed.

(4) A factory or workshop in which there is a contravention of this section shall be deemed not to be kept in conformity with the principal Act.

Sec. 41.—Section thirty-six of the principal Act shall extend to any factory or workshop where any process is carried on by which any gas, vapour, or other impurity is generated and inhaled by the workers in an injurious extent.

Sec. 42.—A provision for annual returns of persons employed.

Sec. 43.—(1) In every place where section twenty-two of the Public Health Act Amendment Act, 1890, is not in force every factory or workshop shall be provided with sufficient and suitable accommodation as the way of sanitary conveniences, having regard to the number of persons employed or not in attendance at the factory or workshop, and also where persons of both sexes are employed or intended to be employed, or in attendance, with proper separate accommodation for persons of each sex.

(2) A factory or workshop in which there is a contravention of this section shall be deemed not to be kept in conformity with the principal Act.

Secs. 44 to 45 contain amendments of 41 & 42 of the Act of 1891, 43, 44, & 45 of the Act of 1891, 46 & 47 of the Act of 1891, 48 & 49 of the Act of 1891, 50 & 51 of the Act of 1891, 52 & 53 of the Act of 1891, 54 & 55 of the Act of 1891, 56 & 57 of the Act of 1891, 58 & 59 of the Act of 1891, 60 & 61 of the Act of 1891, 62 & 63 of the Act of 1891, 64 & 65 of the Act of 1891, 66 & 67 of the Act of 1891, 68 & 69 of the Act of 1891, 70 & 71 of the Act of 1891, 72 & 73 of the Act of 1891, 74 & 75 of the Act of 1891, 76 & 77 of the Act of 1891, 78 & 79 of the Act of 1891, 80 & 81 of the Act of 1891, 82 & 83 of the Act of 1891, 84 & 85 of the Act of 1891, 86 & 87 of the Act of 1891, 88 & 89 of the Act of 1891, 90 & 91 of the Act of 1891, 92 & 93 of the Act of 1891, 94 & 95 of the Act of 1891, 96 & 97 of the Act of 1891, 98 & 99 of the Act of 1891, 100 & 101 of the Act of 1891, 102 & 103 of the Act of 1891, 104 & 105 of the Act of 1891, 106 & 107 of the Act of 1891, 108 & 109 of the Act of 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LANDS CLAUSES (TAXATION OF COBES) ACT, 1868

[32 VICT. CH. II.]

—(b) Where under the Lands Clauses Consolidation Act, 1845 or any Act incorporating the same, any person or persons is/are compensated as determined by the verdict of a jury, or by arbitration, the costs of and incidental to the inquiry or to the arbitration and award (as the case may be), shall, if either party so requires, be taxed and settled as between the parties by one of the masters of the Supreme Court, and such fees shall be taken in respect of the taxation as may be fixed in pursuance of the enactments relating to the fees to be taken in the offices of those masters, and all these enactments (including the enactments relating to the taking of fees by means of stamp) shall extend to the fees in respect of such taxation.

(c) Section forty-four of the Regulation of Railways Act, 1868, and section one of the Lands Clauses Consolidation Act, 1869, are hereby repealed.

* That Act may be cited as the Lands Clauses (Taxation of Costs) Act, 1869.

LANDLORD AND TENANT

REPAIRING COVENANT IN UNDERLEASE—MEASURE OF DAMAGES.

A lease was granted in 1840 to C. for forty years from Michaelmas 1841 in March, 1851, R. granted an underlease to O for the original term less the last ten days thereof. It was now represented by the plaintiff, and O by the defendant C. The defendant B was assignee of the underlease which contained a covenant by the underlessee to keep the premises in repair. The plaintiff brought an action against the defendant C to recover damages for alleged breach of the covenant. Romer, J., in December, 1894, decided that there had been a breach of the covenant and referred the matter to the official referee to assess the amount of damages. The official referee assessed the damages at £1,225. The defendant B appealed. The plaintiffs contended that the proper measure of damages was the sum which it would cost to put the premises in proper repair, allowing a discount for the period for which the sub-lease had yet to run. It was admitted that on this point the sum of £1,205 was the right amount. The defendant B contended that the proper measure of damages was the amount of the depreciation in the value of the plaintiffs' reversion. The defendant B alleged that the buildings would be of little or no value at the end of the term in their existing condition, and that the sewer would have then to pull them down, sell the materials and erect buildings of a different character. And it was contended that the proper measure of damages was the difference between the selling value of the materials as matters stood, and that which would have been their selling value if the covenant had been performed. This difference, it was said, would be only £200. Held by the Court of Appeal that this was an ordinary action for breach of contract and was governed by the rule laid down in the case of *Hadley v. Baxendale* (1864, 11 H.L. 175). The damages were the difference between the value of the plaintiffs' reversion, with the covenant to keep in repair performed and its value with that covenant not performed. Held, therefore, that the official referee had acted upon a right principle; and that the appeal must be dismissed with costs. (*Ex parte* v. *Comptrol*, 1895, 2 C.A. 377, L.T., June 22nd, 1915.)

THE LONDON BUILDING ACT, 1894.

DWELLING-HOUSES ON LOW-LIVING LAND.

The following regulations have been made by the London County Council under Section 123 of the London Building Act, 1894 (37 and 40 Vict., ch. cxviii):—

Every person who shall be desirous of erecting or adapting any building to be used wholly or in part as a dwelling-house on any land in the county of London of which the surface is below the level of Trinity high-water mark and which is so situated as not to admit of being drained by gravitation into an existing sewer of the Council, shall first make a written application for a licence. Such application shall be addressed to the Clerk of the Council.

Such application shall contain a statement as to the nature and extent of the interest of the applicant in the building or buildings proposed to be erected or adapted, and be accompanied by a plan and section of the ground floor of such building or buildings and the earthings thereof to a scale of 1/4 in. to each inch to a foot, and by a block plan to a scale of not less than 1/16 in. (which may be on a sheet or sheets of the Ordnance Survey, or may be drawn on tracing paper, showing the position of such building or buildings and the local sewer into which it is proposed to drain such building or buildings, and the connection of such local sewer with an existing sewer of the Council.

Such plans and sections shall be accompanied by a description of the materials to be used in the construction of such building or buildings, and shall be coloured in accordance therewith. The points of the compass shall be marked on the block plan.

The position and course of the drainage system proposed to be adopted for the disposal of sewage and rain water, and its connection with the local sewer or an existing sewer of the Council, shall be clearly shown on the plans and sections, and the diameter and inclination of the drain pipes shall be figured thereon.

The plan and section shall also indicate in figures the level above or below ordnance datum at which it is proposed to construct the floor of the lowest room.

The decision given by the Chief Engineer of the Council upon such application shall be reported to the Building Act Committee, and the Committee shall report it to the Council, and thereupon, if it is to the effect that the erection or adaptation may not be permitted, the Clerk of the Council shall by letter inform the applicant that the Council, acting upon the decision of the engineer, has refused permission. If it is to the effect that the erection or adaptation may be permitted, a licence under the seal of the Council embodying the conditions of the engineer's decision shall be issued to the applicant.

The seal of the London County Council was hereunto

affixed on the 31st day of April, 1895.

H. DE LA HOOKE, Clerk of the Council.

Signed on behalf of the Tribunal of Appeal in token of their concurrence in the foregoing regulations.

ARTHUR CATES, Chairman of the Tribunal.

24 April, 1895.

The following regulation has been made by the Council under Section 123 of the London Building Act, 1894.

It shall not be lawful to place the underside of the lowest floor of any permitted building at such a level as will render it liable to flooding, and every permitted building shall be sufficiently and properly constructed to be safeguarded against the water being of the Council, either into a local sewer or into a main sewer of the Council.

BUILDING FOR PURPOSES OF TRADE DIVISION BY FIRE—REPAIRING MATERIALS.

At Clerkenwell Police Court, on the 3rd May, before Mr. Horne Smith, Samuel Salt builder, was summoned by the London County Council, at the instance of Mr. J. Douglas Mathews, District Surveyor of Clerkenwell, for having contravened Division 214 subsection 2, of the London Building Act 1894 (57 & 58 Vict., ch. cxviii), in the erection of the White Horse beerhouse, Collier Street, Pentonville.

The offence alleged was that the portion of the building used for the purposes of trade was not separated from the part of the building used for dwelling purposes by walls, floors, &c., of fire-resisting materials. Mr. Grain, for the defendant, argued that the building was generally constructed with fire-resisting materials, and, further, that, being a public-house, it did not come under the section which dealt with premises used for the purposes of trade and manufacturing, a beerhouse being beerhouse and not a public-house. A contract for building was actually entered into in April, 1894, and the Act was not passed until August, 1894, coming into force on January 1st, 1895. The defendant contended that Messrs. Whitbread & Co. The actual signing of the document of contract was in September, 1894, after the passing of the Act. He contended that the section in question did not deal with large works and buildings, and that a beerhouse was so small and of so purpose as a private building. For the prosecution, Mr. Berry argued that the contract referred to by Mr. Grain was a contract entered into before the passing of the London Building Act 1894, within the meaning of section 214 of that Act, and that a beerhouse was a building used partly for the purposes of trade and partly for domestic purposes. Mr. Horne Smith said that the contract submitted was not a contract contemplated by the Act. It was not a contract with the actual builder. He also held that a beerhouse was used for the purposes of trade for the work to be done in accordance with the County Council's request, which was that the ceiling between the ground and first floor should be of fire-resisting materials. It has been held that this section, for as it relates to sec. 212, is in conflict with that of Sir John Bridge in the Bedford Court Mansions Case, reported at page 254, it will be seen, however, that the circumstances of that case differ in material points from those of the present. (*Mather v. Salt*, *Repts. Institute of British Architects' Journal*, 324.)

2.—SECTION 214 UNDER SEC. 212.

The exemption from the operation of the London Building Act 1894 (57 & 58 Vict., ch. cxviii) contained in sec. 214 of that Act in favour of old buildings to be carried out under any contract entered into before the passing of the Act applies not merely to buildings to be erected under a contract with a builder according to definite plans

and specifications, but also to buildings to be erected under an agreement for the development of a Building estate.—(Tanner v. Oldham, D.C., Oct. 26th, W.N.)

—STREET FOR TRAFFIC.

In a case stated by the magistrate for the opinion of the Court, it was stated that the site in question formed part of the site of the old Ardrey House and of a private house connected therewith. In 1891, the brewing business ceased in 1894, after the passing of the London Building Act, the appellant decided to rebuild the building by erecting flats around a quadrangle. When the quadrangle was completed, they would contain 24 flats (of which 14 are in the block already erected in Victoria street, and will have two entrances and staircases leading from the quadrangle. There will also be an estate office, with a separate entrance. There will be no entrance from the quadrangle except by the archway in Victoria street, which will be closed by lofty iron gates, and this archway and the quadrangle will be for the use of the tenants of the flats in the proposed new buildings and the tradesmen and others visiting them on business or pleasure, with or without carriages, and the public at large will be entirely excluded therefrom; and the magistrate delivered his decision in these words: "I found as a fact that the place in question was a street, and I held that the appellant had, under the circumstances, commenced to form and lay out for carriage traffic within the meaning of section 5 of the said London Building Act, and I accordingly convicted the appellant and ordered him to pay a nominal fine."

Mr. Justice Griffiths in giving judgment, said that, in the opinion of both their Lordships, the magistrate was wrong. It was argued for the respondents that the Court ought not to interfere because the magistrate had found as a fact that this was a street, and it was said that other magistrates were entitled to find differently on exactly the same facts. The magistrate, however, was not entitled to find as a fact that which the law did not allow to be a fact. Turning to the facts, the owner had used the site as a brewery for many years. In these days there were ways used by him for carria to the brewery. Those ways, in fact, were more like streets than the present ones. The appellant pulled down the old buildings down the brewhouse and stables, and proposed to build staircases round a quadrangle. The plot being pulled down, he proposed to leave a lawn, with a road round it wide enough for the carriages and cabs brought there by the tenants of the mansion. The whole thing was as private as could be. The appellant reserved the whole right of permitting people and carriages to come in. Could then be said to be a street for carriage traffic within the meaning of the Act? The case of "Davies v. London County Council" was not absolutely in point, but it was, in other cases cited, a case such as the present was given as an instance of a place which could not be called a street. The Court was not asked to define the word "street," and did not mean to attempt it. No one had yet done so. All that the Court had to say was whether the place in question was a street. They thought it was not, and they were justified in so holding.—(Wood v. London County Council, The Times, August 25th.)

(See also "Metropolis Management Act," 1.)

4.—PARTY WALLS.—"NEW BUILDING."

In this case it appeared that Redhouse proposed to re-build a storey warehouse, No. 3, Church street, which in consequence of a fire was taken down at Redhouse's expense, in 1894, for more than one-half of its cubic extent, so that the proposed building would be a "new building" as defined by section 5, sub-section 6 of the London Building Act 1894, which defines the expression "new building" as "any building which has been taken down for more than one-half of its cubic extent and re-erected, or commenced to be re-erected, wholly or partially, on the same site after the commencement of the Act." A notice of objection was served by the district surveyor on Redhouse. The matters in the notice were, however, remedied with the exception of the objection made to the use without consent of a wall or retaining wall, in the proposed new building, as the party wall between the re-erected warehouse and the adjoining warehouse, No. 3, Church street, the said wall not being in conformity with the provisions of the Act as to new party walls. Before the fire the party wall had been the party wall between Nos. 1 and 3. So far as the party wall concerned No. 1, which had not been seriously injured by the fire, it had been reinstated in the course of the reinstatement of No. 1. The respondent had not consented to the erection of a "new building" at No. 1, Redhouse, and he appealed to the magistrate on the ground that he was not compelled by law to make the party wall conform to the provisions of the Act of 1894. The extent to which the party wall was to be taken down and re-erected in consequence of the fire amounted only to one-third of its superficial area. The remainder was said. The party wall had been erected in conformity with the provisions of the Act, but it was not of the thickness required by the Act of 1894. Redhouse contended that as the party wall had not been taken down, burnt, or destroyed to the

extent of one-half thereof, by virtue of section 20 of the Act of 1864 the proposed use by him of the party wall was not in contravention of the Act. Section 20 enacts that "unless in any case the Council otherwise allow, where a party wall or external wall not in conformity with this Act has been taken down, burnt, or destroyed to the extent of one-half thereof (measured in superficial feet), every retaining portion of the old wall not in conformity with this Act shall either be made to conform therewith, or be taken down before the re-building thereof." The surveyor contended that the proposed re-erected building was a "new building" within section 5, sub-section 6 of the Act of 1894, the party wall should be so erected as to comply with the provisions of the Act, and that there was no exemption except as implied in section 20. The magistrate held that Redhouse's contention was correct, and that he could not be compelled to take down, rebuild, or thicken the party wall. In the District Court, Mr. Justice Wills held that the magistrate's decision was accordingly affirmed.

The judgment of the Court of Appeal was given by the Master of the Rolls, who said: "that they could not find any section in the Act which enabled the surveyor to deal with this wall. Section 10 of the former Act (the Metropolitan Building Act, 1855) seemed to have been dropped out of the present Act, and the Court could not read it in. As to section 5, that section merely defined the expression used in the Act, and it was clear that it was not an enabling clause; and the Court dismissed the appeal.—(Grew v. Redhouse, The Times, August 1st.)

(See also *Metropolis Management Act*, 3.)

METROPOLIS MANAGEMENT ACT.

1.—STREET FOR TRAFFIC.

This was a special case stated by a metropolitan magistrate, raising the question whether a certain passage not dedicated to the public, and only leading to certain proposed persons' dwellings, was a street for traffic within the meaning of the Metropolitan Management Act, 1862, s. 4, Vic. c. 14, sec. 7. Such dwellings were to consist of 20 separate sets of chambers in two blocks, with about ten separate entrances to the ground floor on each side of the passage, and about 150 persons. These buildings would be approached from Hunt Street through a gateway to be erected at the entrance of the approach to these buildings. This approach, which was the subject of the summons was to consist of a court or passage 10 ft. long and 8 ft. wide, with the buildings opening into it on either side. On the respondent's plan this space was called a "light area," on that of the appellants it appeared as "new street." This passage would not afford any communication with any street other than Hunt Street, and was intended and was for the use and convenience of the tenants of the said buildings, fronting thereon. No road or passage way had existed on the site of the passage previously. The respondent contended that he had not committed any offence, because the passage was only a private entrance for the use of the tenants of the appellants' dwellings, and had not been dedicated to the public. The magistrate dismissed the summons on the ground that the respondent had not committed to lay out a new road, passage, or way as a street for foot traffic, as it was not intended to be used by the public, and, in his opinion, therefore, was not laid out or commenced to be laid out as a street for foot traffic within the meaning of the Act.

Mr. Baron Pollock, in giving judgment, dissenting from the decision of the magistrate, said he did not consider the judgment of the Court to be a decision on a question of principle, but rather on a state of facts. The magistrate's decision was based on the fact that the passage was not laid out for traffic within the meaning of the Act. His decision must not be disturbed. It had been said that there was a difficulty in cases where no dedication had been made to the public, but the case of *St. Mary, Islington v. Barre* (L.R., 9 Q.B. 181) showed that a place might be a street, though not dedicated to the public. The surveyor was not the present question. Looking at the space which was here left for access to the tenements from the public street it was a very different case from that of a way which was really laid out as a street, except that the builder had enclosed it with gates at one end or at both. A builder could not thus prevent a passage which would be a street from being a street within the meaning of the Act. In *London County Council v. Davis* (99 L.J., M.C., 112) showed that there was no doubt that the way here was a new way. The magistrate was not asked to find for what purpose it was created.

Mr. Justice Wright continued. It was clear that the Act might apply to places as to which no intention to dedicate was present. Where a permanent use was granted to the public, or even in some places where none was granted. But the question was whether when it would apply to a common access to a private dwelling house. At any rate, it was competent to the justices to hold that the passage was not a street for purposes of the Act. The magistrate's decision, however, must not be taken as an authority as to what was or was not a street within the Act.—(London County Council v. Davis, The Times, June 14th.)

(See also *London Building Act*, 1.)

—NEW STREET—PAYING EXPENSES—HOUSE OF APPOINTMENT

In making, under Sec. 77 of the Metropolitan Management Amendment Act, 1862, an appointment of the expenses, or estimated expenses, of paving a new street, the local authority is to be liable to charge the owners of land bordering on such street rateably in accordance with frontage or otherwise and the appointment cannot, in the absence of such facts, be questioned. *Metropolitan District Railway Co. v. Farnham Vestry*, C.A., 1883, 2 Q.B. 443.

3.—PAYING EXPENSES—APPOINTMENT.

A road which was a turnpike road down to 1865, and previously to 1865 of a rural character, subsequently became a new street in the ordinary sense of the term by the erection of buildings alongside.

Held, that it was within the terms of sec. 75 of the Metropolitan Management Act, 1851, and that therefore the district board might pave it under that section and charge the expenses upon the frontagers.

Held, also, that the fact that slight temporary repairs had been previously done by the district board to the footway of the road by far painting it did not prevent them from exercising the powers given by the section. The principle on which the expenses of paving a new street have been apportioned by a district board amongst its owners liable in respect thereof cannot be questioned in any court.

See *Memorandum by A. L. Smith and Rigby L. J.* that the commissioners, trustees, and other authorities referred to by sec. 112 of the Act of 1862 are authorities having control of the pavement or highways generally in the parish or place, and do not include turnpike trustees. (*Dumfries v. Greenwich Board of Works*, C.A., 1896, 2 Q.B. 810.)

4.—COMPULSORY TAKING OF LAND—CO.

Where land has been taken compulsorily, under Michael Angelo Taylor's Act, by the Vestry of a Metropolitan Sanitary District for the purpose of widening a street, and the owner's compensation has been assessed by a jury, he is not entitled to be paid by the vestry his costs of the trial. (*Rogers v. London Vestry*, No. 5, 1895, 2 Q.B. 851.)

5.—"DRAIN" OR "SEWER."

The owner of a rectangular piece of ground in the Metropolitan erected thereon two blocks of buildings, consisting of forty-six sets of apartments. The blocks were divided by a paved yard, twenty feet wide. Across one end of the yard was a wall joining the outer wall of the two blocks which stood on the boundary of the piece of ground. Across the other end of the yard, in a similar position, was a railing with an opening in it leading into a public thoroughfare, so that the piece of ground was completely fenced in all round except for the opening in the railing. The entrances of one block were from the yard, the entrances to the other block were from a public thoroughfare, but windows of this block received light from the yard. In the yard was a duct which was, in fact, used by the occupants of both blocks. The drainage was by means of twelve drains running from the two blocks of buildings into a nine-inch pipe running under the yard into a sewer within 100 feet of the blocks.

Held, that, the nine-inch pipe was used for the drainage of "premises within the same curtilage" within the meaning of sec. 330 of the Metropolitan Management Act, 1856, and was therefore a "drain" and not a "sewer" within the meaning of that Act. (*Pulford v. The Vestry of the Parish of St Leonard, Shoreditch*, 1895, 1 Q.B. 73, C.A., 1895, 1 Q.B. 437, 75 LT. 135.) (See also *Public Health Act*, s. 13.)

6.—"DRAIN" OR "SEWER."

R owned an arcade consisting of a central passage with shops and houses on both sides. There was no right of way along the passage, which was roofed and closed by gates at either end. The premises were drained by a constructed drain, which ran down the centre and received the drainage of the houses.

Held, by G.A. Affirm. Div. Cl., that the construction was not a drain "used for the drainage of premises within the same curtilage" and was therefore a "sewer" and not a "drain," and was vested in and repairable by the Vestry. (*St. Martin-in-the-Fields Vestry v. Bird*, 1895, 1 Q.B. 498.)

7.—"DRAIN" OR "SEWER"

The complainant was the leaseholder of the houses in question, which were drained by a combined operation, several houses being served by the same pipe connection with the sewer in the roadway. It was contended on behalf of the complainant that this being a combined drain—to the construction of which the consent of the local authority had never been given—the Vestry were liable for its repair. On behalf of the Vestry, it was contended that the cause of the drain, the drain was constructed illegally—that is to say, without the consent of the local authority—was upon the complainant, also that the Vestry could not be proceeded against under section 13 of the Public Health (London) Act, 1861, and that since the case of *Kershaw v. Taylor* officers of this class of property had been trying to take advantage of the decision by throwing the cause of putting the property into a proper state upon the Vestry.

The court issued no writ upon *The London County Council* (1894, 1 Q.B. 487, per Lord Coleridge) in 1894, under "Legal Proceedings," stating there was nothing contrary to their decision at that case.

Mr. Hopkins, in his judgment, stated that the first question which arose in the case was whether or not this was a sewer, or whether it was only a drain. Looking at the pipe itself, quite apart from any question arising under the statute, he came to the conclusion that this was a sewer common to all the houses. It might be shown if certain things could be proved, that this pipe, instead of being a sewer, was a drain, in consequence of the arrangements made with the owner of the property at the time the pipe was laid. None of these things had been proved and the question was, whose business was it to prove. If the defendant could show that the Vestry who had all the papers relating to the matter under their control, and who ought to be able to show whether certain consents were given. There was another point in the case which was upon the Vestry who had to trouble—the point that the Public Health (London) Act, 1861, provided no machinery by which the sanitary authority can be compelled to keep their sewers in order. He had searched the Act through without being able to discover any sort of machinery which compelled the Vestry to keep their sewers in order. The whole of the statute from beginning to end, looked upon the Vestry at the complainant. There was no provision of aid or remedy by which the Vestry, upon whom so far as he understood the statute, the burden of keeping this pipe in repair fell, could be compelled to repair their sewers. He did not think he could make any order under the Act in respect of the Vestry to repair this pipe and the summons was therefore dismissed. (*Rushdown v. St. Mary Newington Vestry* in *Journal of Royal Institute of British Architects*, 75.)

8.—"DRAIN" OR "SEWER."

Under the Metropolitan Local Management Act, 1855, the liability to repair "sewers" falls on the local authority, and the liability to repair "drains" on the owner of the property, and by the same Act the word "drain" is defined as "a drain or sewer" for the purpose of the drainage of one building only, and the word "sewer" as including "sewers and drains of every description except drains to which the word 'drain' interpreted as aforesaid applies." By this the plaintiff had purchased two freehold houses in Paddington, shortly afterwards he received from the defendants a notice to repair a defective drain. The plaintiff accordingly opened up his drain when he for the first time discovered that it had been connected with and received the drainage from other premises at the rear, belonging to a different owner. The plaintiff brought an action against the defendants for the damages of what he had expended upon the work on the ground that the drain was a "sewer" within the meaning of the Local Management Act, 1855. It appeared that the connection with the plaintiff's drain had been made some thirty years ago, without the authority of the Vestry, and that the plaintiff when he purchased had made no special inquiry as to the drainage.

Held, on the authority of *Kershaw v. Taylor* (1895), 2 Q.B. 437, that the plaintiff's drain was a "sewer," and that he was entitled to be repaid the money he had expended in repairing it. (*Pulford v. Paddington Vestry*, 95, W.N. 145.)

9.—BUILDING LINE—BUILDING, STRUCTURE, OR ERECTION

The question whether a wall in a "building, structure, or erection" depends on the height of the wall and its purpose for which it is erected.

A forecourt of a house had been for many years bounded by a dwarf wall about 3 ft. high. The owner pulled this down and built a wall 11 ft. high which was intended for retaining the soil on the rear and also as a boundary to the forecourt. Held, that the original dwarf wall was not a "building, structure, or erection," and that as long as it existed the new wall could be erected on the same site as vacant land, but that the substituted wall was a "building, structure or erection."

The fact that the summons was taken out before the date of the architect's certificate as to what the line of building was did not affect the validity of the summons. (*Foley v. London County Council*, 1895, 1 Q.B. 915, 1895, W.N. 102 [3].)

10.—BUILDING LINE—CONCRETE ROOF.

When an application is made to inquire under the Metropolitan Management Act, 1860, Sec. 73, for an order to demolish a building on the ground that it is beyond the line decided by the superintending architect to be the line of building of the street, in which the building is situated, the question whether the building, in that particular street of which the line has been so laid down is to be decided by the superintending architect's certificate, and not by the magistrate to whom the application is made. (*Allen v. London County Council*, 1895, 1 Q.B. 375.)

11.—NUISANCE—FLOODING CAUSED BY EXCAVATION FOR

BRICKS.

In an action to restrain a defendant from carrying on their building operations in such a manner as to cause and add damage to the plaintiff, it appeared that the defendants, in the course of their building operations, had excavated the plot of land in a considerable, but not an unusual depth, in such a manner that the floor of the

excavation sloped towards the wall of the plaintiff's house. Heavy fall of rain caused that part of the excavation which adjoined the plaintiff's premises to become flooded, and the water percolated through into the basement of the premises, and flooded it to a depth of two or three inches. The plaintiff alleged that the flooding of her premises was due to the negligence of the defendants in so excavating their plot of land as to make the floor of the excavation slope towards her house, and in neglecting an injunction to restrain them from carrying on their work in such a manner. The defendants denied sequence, and said that the slope of the excavation towards the plaintiff's property was the necessary consequence of the existence of a cartway which they had constructed in order to enable carts to go down into and to come out of the excavations and they further said that their building could not be properly and effectively carried out without such cartway. No injunction was granted, the damage and inconvenience to the plaintiff having passed off when the wet weather ceased, and the action now came on for the purpose of having the cost disposed of, and the merits of the case were gone into for that purpose. *Held*, it was of opinion that the defendants had not erected and maintained artificial erections or artificial works with the meaning of *Read v. Baitard*, 3 Ch. Div. 663, 21 W.R. 501; but thought that the operations were conducted with a view to the natural enjoyment of the land and nothing more, the land being building land in London, and the defendants' sole object being to build a house. *This did not constitute an artificial work or use of the land within the meaning of Rylands v. Fletcher* (10 L.T. Rep. 530, L. Rep. 3, H.L. 330). The cases of *Wilson v. Woodell* (15 L.T. Rep. 629, 2 App. Cas. 65) and *West-Cornwall Iron and Steel Company v. Secretary* (40 L.T. Rep. 459) were also considered to be on this point in the course of the judgments. (*Prinsep v. The Helgoland Estate Limited*, L.T., April 30th)

PUBLIC HEALTH

1.—BRICK-BURNING—NOTICE TO ABATE.

The appellant was summarily convicted under sec. 21 of the Public Health (London) Act, 1869, on a complaint by the Sanitary authority that premises on which was carried on the business of brick-making in the process of brick-burning caused effluvia, and were a nuisance and dangerous to health.

Held, that it was not a *crimen* precedent to such conviction that a notice under sec. 4 should have been served upon the appellant requiring him to abate the nuisance, such a notice is only required in the case of the particular nuisance enumerated in sec. 2.—*Hind v. Feisty of St. Mary Abbots, Kensington*, 1895, 1 Q. B. 912, 73 L.T. 599

2.—"DRAIN" OR "SEWER."

Sec. 134 of the *Canals Corporation Act*, 1875, provides that, in cases where two or more houses or premises are connected with a single private drain, which conveys their drainage into a public sewer, the corporation shall have all the powers conferred by sec. 21 of the Public Health Act, 1869. The Public Health Act Amendment Act, 1890, gives similar powers. The respondent was the owner of a house which, together with adjoining houses (belonging to different owners), was drained by a common drain or sewer, which discharged into an admittedly public sewer.

Held, that such drain was a "sewer" and not "a single private drain," and was vested in the local authority.—*Hill v. Hair*, 1895, 1 Q. B. 208, 73 L.T. 240

3.—"DRAIN" OR "SEWER"

Where a builder unlawfully, in 1877, built four houses drained into one construction, and subsequently sold them to different persons

Held, that the purchasers were not stopped from setting up that the construction was a sewer, and not a drain, and that the duty of repairing lay on the sanitary authority. (*Kershaw v. Taylor, Davi, Court*, 1895, 2 Q. B. 208, Affirm. C.A., 1895, 2 Q. B. 475)

4.—"DRAIN" OR "SEWER"

Two houses, owned by different persons, were connected with a sewer by a single private drain, the local authority, which had adopted sec. 13 of the Act of 1869, served on one owner a notice addressed to both, under the Public Health Act, 1895, requiring them to abate a nuisance by doing certain works. The owner served did the work, and sued for the cost as money paid at the request of the authority.

Held, by the Divisional Court that the notice was not a request to do the work, and that the owners were compellable to do the work under sec. 13 of the Act of 1869, and was at of the Act of 1895.—*Self v. Hove Commissioners*, 1895, 1 Q. B. 684.

5.—"DRAIN" OR "SEWER."

A drain passing through a road, but receiving the drainage of more than one building, is a "sewer" within the meaning of the Public Health Act, 1875.—(*Travis v. Utley*, 1894, 1 Q. B. 233; 63 L.T. M.C. 88, 70 L.T. 242, 42 W.R. 461, 58.) P. 651
(See also *Metropolitan Management Act*)

6.—INCOMBUSTIBLE MATERIALS—GALVANIZED IRON WITH WOODEN SUPPORTS AND MATCH BURNING.

One of the bye-laws made by the defendants as rural sanitary authority required all new buildings to be enclosed, with walls constructed of good brick, stone, or other hard and non-combustible materials properly finished etc. The plaintiff proposed to erect a schoolhouse for his school, consisting of sheets of corrugated galvanized iron one-third of an inch in thickness with a layer of felt laid fixed to the outside of a framework of wooden match-boring studs.

Held, that the galvanized iron alone was not a wall, and that the structure composed of wood and iron, which constituted the wall was hard and incombustible materials as required by the bye law.—(*Radley v. Cuckfield Union Rural District Committee*, 73, L.T. 775)

7.—NEW STREET—LAYING OUT BY LANS

Where the owner of a street laid by the side of a lane which ran into a road began to build a house fronting to the road the side of which abutted on the lane, and there was nothing to show any intention on his part of building other houses along the lane

Held, that he was not laying out a new street along the lane within the meaning of 199-laws with respect to the construction of new streets made under sec. 137 of the Public Health Act, 1875.—(*St. George's Local Board v. Beland*, C.A. 1895, 1 Q. B. 700)

8.—PLANS, REJECTION OF, BY LOCAL AUTHORITY

On an application to the Queen's Bench Division by a builder, for a mandamus to the Sanitary and Parishes Local Board to approve of certain plans and sections for the building of certain houses on land of his which he had submitted to them, and which they had rejected without assigning any ground or reason, it appeared that he delivered to the Board plans and sections for forty-nine cottages or cottages which he intended to erect on land which he had lately purchased. His agent with him a notice that on the 27th November he intended to proceed with the buildings. On the 31st November he had a letter from the clerk of the Board in these terms:—"I am instructed to return to you the plans and sections for forty-nine cottages, and to inform you that they are not approved of by the Board." There was an affidavit by the applicant that he had acted in accordance with the Public Health Act, 1875, and the bye laws, and this was supported by the testimony of two skilled and experienced architects. There was also an affidavit by the applicant that, on several occasions he had asked the surveyor and the chairman and another member of the Board to give the reason for the rejection of the plans, but had always been met by a refusal, and that on one occasion the surveyor told him that his instructions were not to disclose the reason why the plans had been rejected. On affidavits of these facts Mr. Pollock, Q.C., moved for a mandamus to the Board to make an order, and stating their approval of the plans. His Lordship was already authority for such an application (*The Queen v. Newcastle-on-Tyne*, 33 Justice of the Peace, 788). The Local Board, in such a case, had not an arbitrary power of rejecting building plans without any real ground or reason, they could only reject plans on some specific and intelligible ground. And where, as in the present case, they refused to state the grounds and reasons on which they had proceeded, there was no remedy but such an application as the present.

The Court Mr. Baron Pollock and Mr. Justice Gresham granted a writ nisi for a mandamus.—(*Ex parte Goodwin*, re *Sanitary and Parishes Local Board*, *Journal of the Royal Institute of British Architects* 1895)

9.—JURISDICTION OF COURT TO DETERMINE AS TO NECESSITY OF WORKS.

Where a municipal Corporation, acting under certain sections of the local Act which are in almost identical terms with sec. 6-7 of the Private Street Works Act, 1894, passed a resolution approving plans for new works proposed to be carried out

Held, that a Court of summary jurisdiction, in determining objections to the proposed works, has jurisdiction to take into consideration the sufficiency of the existing state of affairs which it is proposed to alter. (*The Corporation of Walsby v. Alexander and others*, 73, L.T. 242)

10.—FOOTWAY—APPORTIONMENT

A local board acting as an urban sanitary authority resolved to execute works in a private street, having fronted to the north side. Part of the land on the south side was owned by the local board. The work partly consisted of flagging a footway on the north side, there was no footway on the south side.

Held by Divisional Court that the expenses of the footpath were properly apportionable among the owners of premises fronting, adjoining, or abutting on both sides of the street.—(*Clifton Local Board v. Frang & Sons*, 1895, 1 Q.B. 395)

LONDON BUILDING ACT, 1894.

57 and 58 Vict., Chap. CCXIII., Sec. 184.

THE TRIBUNAL OF APPEAL.

REGULATIONS as to procedure to be followed in cases of Appeal, and the Fees to be paid.

Made by the Tribunal and approved by the Lord Chancellor in accordance with Section 184.

1. *Generally.*—All communications shall be written, type-written, or printed on foolscap paper. All drawings shall be on tracing linen and in duplicate. Any further drawings or copies of drawings shall (if so required by the Tribunal) be supplied by the Appellant.
2. *Time and place for lodging Appeals.*—Appeals shall be addressed to the Tribunal of Appeal and shall be lodged and the fees thereon shall be paid at the office of the Tribunal No. 134, Great George Street, Westminster, S.W., by hand, within the period (if any) prescribed by the Act, and where no period is so prescribed, within fourteen days after notice of the decision, determination, certificate, requirement, or regulation appealed against has been given to or served on the Appellant.
3. *Documents to be lodged with Appeal.*—The Appeal, which shall specify the section and subsection under which it is made, shall be accompanied by copies of the original application and of the decision, determination, certificate, requirement or regulation appealed against, and by three copies of a plan or map of the site of the building or buildings to which the Appeal relates. These documents shall be supplemented by a short statement of the facts, setting out the grounds of the Appeal, together with a list of the names and addresses of all persons to whom notice under the original application and of this Appeal have been given.
4. *Notice to be given by the Appellant.*—The Appellant shall also within the time limited for lodging the Appeal give notice of such Appeal to the London County Council, and in cases where the original applicant is not the Appellant, in such applicant, and in case of an Appeal under any of the following sections also to the persons mentioned opposite such section.

Notices to be given other than to the Council and original Applicant.

Section	With Reference to	Persons to whom Notice to be given
5 (b)	The Superintending Architect's determination as to the level of the ground.	The Superintending Architect. The District Surveyor.
13 (b)	The Council's determination that the prescribed distance shall be greater than 20 feet from the centre of the roadway.	The Local Authority.
13 (d)	The Council's consent to the erection, &c., of any building, &c., at a distance less than the prescribed distance from the centre of the roadway.	The Local Authority.
19	The refusal or conditional grant of Council's sanction under Part II to Streets.	The District Surveyor. The Local Authority.
19	The refusal by a District Surveyor of his Certificate to plans of a building or structure to be altered or re-erected under Section 13.	The District Surveyor. The Local Authority.
25	The Certificate of Superintending Architect as to general line of buildings.	The Superintending Architect. The Local Authority and all other persons entitled under Section 25 to notice of the Superintending Architect's Certificate.
29	The Certificate of the Superintending Architect determining in what street or streets a building or structure is situate.	The Superintending Architect. The Local Authority and all other persons entitled to notice of the Superintending Architect's Certificate.
43 (b) & (iii)	The refusal of a District Surveyor to certify plans.	The District Surveyor.
44	The Council's determination in cases where a person desires to re-arrange a cleared area.	The Local Authority.
46	The Superintending Architect's Certificate determining the front and rear of a building.	The Superintending Architect.
46 (b) & (d)	The Council's refusal to allow a building to be erected to a greater than the prescribed height.	Such Owners or Lessees as the Council may under this section direct.
76	The District Surveyor's requirement respecting the construction of public buildings in case of disagreement.	The District Surveyor.
79	The District Surveyor's requirement respecting the conversion of any building into a public building in case of disagreement.	The District Surveyor.
122	The Council's refusal to permit, or any of the Council's regulations as to, or the decision of their Engineer, or conditions imposed on the Council's grant of a licence for the erection of dwelling-houses on low-lying land.	The Council's Engineer. The Local Authority.
125	The refusal of a District Surveyor to grant a Certificate as to sky signs.	The District Surveyor.

ON WOODEN AND TEMPORARY STRUCTURES.

On inspection of any wooden structure or on inspection of any structure or erection put up on any public occasion the same amount as for a new building calculated on the area of the structure or erection without reference to the area of any building to which it may be attached or in or on which it may be put up

ATTENDING AT COURT.

£ s. d.

For attending at a court when an order is made for complying with notice of irregularity 0 10 0

PART II

ON DANGEROUS STRUCTURES.

On each dangerous structure—

Where there are not more than four adjoining or nearly contiguous structures in the same ownership

1. For making a survey of the structure reported as dangerous and certifying opinion thereon—

If the structure do not exceed four squares in area and

two storeys in height 0 7 6

If exceeding four squares 0 10 0

For every additional storey above two 0 3 0

2. For each inspection of the structure and report as to completion or progress of the works 0 5 0

3. For inspecting the structure before the hearing of the summons and attending the court to give evidence—

If one structure only 0 10 0

If more than one structure (for each structure) 0 5 0

4. For inspecting the structure before the hearing of the summons against the occupier (the owner having failed to comply and attending the court to give evidence—

If one structure only 0 10 0

If more than one structure (for each structure) 0 5 0

5. For every adjournment of the summons 0 3 0

6. For superintending the erection of shoring (including scaffolding when requisite and hoarding whether done by the Council or not and for certifying the account for the same when done by the Council 0 10 0

7. For shoring without hoarding or hoarding without shoring and certifying the account 0 7 6

8. For supervision including the report of the officer in cases where it is necessary for the Council to execute works to ensure the safety of the public under an order made by a court 0 5 0

Where there are more than four adjoining or nearly contiguous structures in the same ownership

For Nos. 1, 2, 3 and 4 in the above table 0 1 0

For No. 5 0 3 0

And for No. 8 0 1 0

PART III

FEES PAYABLE FOR SPECIAL SERVICES.

The fees payable by a builder to the district surveyor for special services shall be the following

For superintending the construction of floors and partition walls to stables under section 70 of this Act per building 0 5 0

For superintending the construction of overhanging eaves windows per building 0 5 0

For superintending the fixing of any oven copper steam-boiler or stove to be used for trade purposes and not solely of gas 0 10 0

For superintending the fixing of pipes for conveying heated air or hot water or steam at high pressure (for each floor of a building on which pipes are fixed) 0 10 0

For services relating to the erection of buildings on low lying lands per building 0 5 0

PART IV.

FEES PAYABLE TO COUNCIL.

ON DANGEROUS STRUCTURES.

For general services—

1. For preparation of notices for same and postage 0 3 0

2. For service of notices (clerk's time) 0 8 6

3. For travelling per mile (one way) 0 0 3

4. For obtaining summonses and orders (clerk's time) 0 0 0

5. For cost of each summons or order 0 3 0

Where there are two or more adjoining or nearly contiguous structures in the same ownership—

For Nos. 2 and 4 (above) each 0 2 0

The fees payable upon ten structures shall be the maximum fees

ON DILAPIDATED AND NEGLECTED BUILDINGS OR STRUCTURES.

1. For each inspection of the building or structure and report 0 5 0

2. For obtaining summons and order (clerk's time) 0 8 6

3. For cost of each summons or order 0 0 0

4. For attendance at a court to give evidence 0 5 0

5. For every adjournment 0 3 0

6. For supervision of works including report of officer in cases where the magistrate's order is executed by the Council 0 5 0

7. For travelling per mile (one way) 0 0 3

8. The cost of procuring local evidence to satisfy the magistrate that the condition of the structure is prejudicial to the property or to the inhabitants of the neighbourhood is to be considered separately in each case.

Where there are two or more adjoining or nearly contiguous structures in the same ownership—

For Nos. 1, 2 or 4 (above) each 0 3 0

For Nos. 3 or 5 (above) each 0 2 0

The fees payable upon ten structures shall be the maximum fees

For travelling per mile (one way) 0 0 3

REGULATIONS.

1. The fees specified in this Schedule in respect of works to a party wall comprise the fees payable in respect of both sides of the wall.

2. No fee shall be charged in respect of the fixing of a chimney pot.

3. No fee shall be charged in respect of the repairing of a chimney top unless the top has been pulled down to a greater extent than twelve inches.

4. No fee shall be charged in respect of the repairing of a parapet unless the parapet shall have been pulled down to a greater extent than twelve inches.

5. In calculating the area of every new building for the purposes of this Schedule the area of all outbuildings not exceeding thirty feet in area, whether situated or not shall be included provided such outbuildings be erected at the same time as the main building.

LONDON COUNTY COUNCIL.

Regulations as to Applications for sanction or consent under the London Building Act, 1894.

NOT. — *AMM BEE LAWS* supersede the "Regulations of the Architect's Department," page 539 of the ARCHITECT'S COMPENDIUM, 1894.
 For other *BEE LAWS* still in force see page 535 of the 1894 Volume.

I. GENERAL.

All applications are to be addressed to the Superintendent Architect, County Hall, Spring Gardens, S.W.

(1) Applications must be in writing on foolscap paper, and all drawings, including plans, sections, and elevations must be on tracing linen of sufficient size to permit of the approval of the Council being endorsed thereon.

The scale to which drawings are made must be drawn thereon and used in pencil, the north point must be indicated on all plans, a site must be coloured pink, the proposed building red, existing buildings grey, and any land to be dedicated and left open for the use of the public, blue.

The name of the person on whose behalf the application is made must be stated. Reference must be made to the section of the Act under which sanction is sought, and particulars must be furnished as to the nature of the application and the situation of the street, building or structure.

All drawings must be sent in duplicate.

II.—PARTICULARS AS TO DRAWINGS REQUIRED IN EACH CASE.

(1) *New Streets, &c.* Sec. 7 and sec. 10.

Plans must be to a scale of 88 feet to the inch, and must be accompanied by longitudinal sections in some horizontal scale (but to a vertical scale of 15 feet to the inch, showing the natural and intended surface levels of the streets (computed from ordnance or some other fixed datum) and by cross sections to a scale of 22 feet to the inch.

A key plan of the locality showing the surrounding property must also be sent.

The names proposed to be given to the streets must be submitted; they must be such as are not already in use.

In the event of the application being sanctioned, two additional copies of the plans will be required.

In the case of the widening of streets under sec. 10 (4) sections will not be required.

(2) *Buildings within prescribed distance, lines of frontage, &c.* Sec. 13, sec. 17, and sec. 28.

Plans must be to a scale of 22 feet to the inch, and must show the situation of the building in relation to others adjacent. The height and precise distance from the centre of the roadway of the proposed building and the width of the street are to be figured.

The names and addresses of the owners and occupiers of the nearest building on each side of the proposed building must also be sent. In the event of an application being approved, an additional copy of the drawings will be required.

In the case of applications under sec. 13 (3), the extent and height of the old buildings on the site to be shown in the same scale.

(3) *Space at rear of domestic buildings, &c.* Sec. 41, and open space about working class dwellings not on fire public way. Sec. 43.

Plans and sections must be to the scale of one-eighth of an inch to the foot, they must indicate the height of the proposed buildings in every part. There must also be a block plan to the scale of 32 feet to the inch, showing the site, during pressures, with the approximate height of any buildings thereon.

(4) *Open space at rear of domestic buildings on old sites.* Sec. 43.

Plans and sections to the scale of one-eighth of an inch to the foot showing the height and extent of the previously existing buildings, and certified by the District Surveyor, must be sent together with plans and sections of the proposed new buildings to the same scale. The position and approximate height of any old buildings must be indicated on a block plan to the scale of 32 feet to the inch.

(5) *Leaving out new streets on a cleared area.* Sec. 44.

In addition to the plans, sections and elevations Regulation II. (1) and (2) for so far as they relate to the mode of the rules of Part V. of the Act may be asked for under II. (3), a plan will be required to the scale of 88 feet to the inch, showing the width of all old streets on the area and the extent and approximate height of all old buildings thereon as well as of the proposed new streets and buildings.

(6) *Height of buildings.* Sec. 47, and sec. 49.

A block plan to a scale of 32 feet to the inch, showing the position of the proposed building and of any adjacent buildings and the width of the street.

Also a plan and sections to the scale of one-eighth of an inch to the foot, showing the height of the several parts of the building.

(7) *Towers in external walls.* Sec. 55; and *junction chimney shafts*.

Plans and elevations to the scale of one-eighth of an inch to the foot, together with such details to a larger scale as may be necessary to show the construction.

A block plan to the scale of 32 feet to the inch, showing the position of the building.

(8) *Proposed.* Sec. 73.

In addition to the drawings, &c. required by Regulation II. (2), a plan, section, and side elevation to the scale of one-eighth of an inch to the foot. In the case of the application being approved an additional copy of the drawings will be required.

(9) *Additional external walls, &c.* Sec. 75; and *buildings for the supply* of electricity, sec. 77.

A block plan to the scale of 32 feet to the inch showing the position of the building and buildings adjacent.

Plans and sections to the scale of one-eighth of an inch to the foot showing the height of the building in its various parts.

The use to which the various parts of the building are intended to be put are to be indicated, and any points bearing upon the question of liability to fire.

(10) *Special and temporary buildings and wooden structures.* Part VII.

Applications must be accompanied by a block plan of the premises, showing the position of the building or structure, and also by a plan elevation, and section to a scale of one-eighth of an inch to the foot, together with such details to a larger scale as may be necessary to show the construction.

A fee of 5s. must be paid to the cashier of the Council on depositing the application, and a further fee of 1s. on obtaining the notification of the order of the Council, and in no case will the work be allowed to proceed until the fees are paid.

Every application for an extension of the period for which the Council has allowed the use of a temporary building must be accompanied by a certificate from the District Surveyor as to its condition, and as to its stability for such further period as may be applied for, and also as to any repairs which may be required.

In cases where the structure has existed for less than three years, and if the inspection be merely to ascertain that the building has not been altered as to condition or position, and to verify that an extension of time may be allowed, a fee of 1s. may be demanded and received by the District Surveyor.

In cases where the structure has existed for three years or more, and a certificate with regard to structural stability is required, a fee of 5s. may be demanded and received by the District Surveyor.

(11) *Naming of streets and numbering of houses.* Part IV.

Persons laying out new streets or building rows of houses would facilitate their own operations with reference to houses and the numbering of houses required by the Council under the statute by observing the following rules—

St. Paul's Cathedral is recognised as a central point; and the numbering of houses begins at the end or entrance of the street nearest to that building, except where a street leads from a main thoroughfare to a less important street, and then the numbering must start from the main thoroughfare.

Taking, therefore, the sides of a street as left and right (assuming that the back is towards St. Paul's) the odd numbers will be assigned to the left-hand side, and the even numbers to the right-hand side.

No name is to be used for a street unless with the approval of the Council, and it must be a name consisting, if possible, of one word, with the addition of "street," "road," or other like term, and not already in use within the county.

Only such streets as are longer than three-quarters of a mile in length can be designated "roads."

No street under 20 feet in width can be called an "avenue."

The names "garden" and "grove" can only be used when the houses used appropriate.

Names in any way associated with the locality are preferred.

Names for houses or places, or other blocks of houses, and sections of streets, usually known as subsidiary names, are not recognised.

Any person interested in a property affected by any order of the Council for re-numbering streets or re-numbering houses, is permitted, on application, to make a copy of the order and a tracing of the plan attached thereto; or a certified copy of the order and plan may be furnished to him on his paying the cost of making the same.

A fee of 1s. is to be charged to all persons seeking information involving a reference to the records with regard to orders for re-numbering streets or re-numbering houses.

If a copy of an order and plan is required, there will be a further fee of not less than 2s. 6d.

A more extended plan may be obtained for a larger payment. Copies of orders and plans are to be made in the superintendent architect's department.

Standing Orders of the Council relative to the following matters under the London Building Act, 1894.

Where special conditions are imposed by the Council in granting applications, the acceptance of such conditions by the owners of property is to have a stampy stamp affixed.

Whenever an application is rejected a copy of the reasons for the rejection, as stated by the Committee's minutes, is to be sent to each of the parties concerned.

The following conditions are to be imposed in the case of buildings sanctioned, viz.—"That the building shall be commenced within six months and be completed, within eighteen months from the date of the licence."

That the erection be made in entire conformity with the letter of application, and shown on the plan accompanying it and be not at any time, in any manner, altered or raised without the consent of the Council, and that if the plan or application be hereafter found to be inaccurate in any particular, the consent of the Council shall be null and void."

Where any land is to be given up these words shall be inserted, viz.—"That within three months after the erection of the building the whole of this land coloured blue on the deposited plan be dedicated to and left open for the use of the public."

In the case of a new shop street these words shall be inserted, viz.—"That no part of the proposed shop or any structure or erection connected therewith do exceed 16 feet in height above the footway."

PART II.—FORMATION AND WIDENING OF STREETS.

A copy of each plan for the formation of a new street, or for the adaptation of a way for a street, or for the erection of a building or structure at less than the prescribed distance from the centre of the roadway, is to be sent to the local authority in whose district the proposed street, building or structure is situated, with a request that they will inform the Council within fourteen days whether they have any suggestions to make with reference to such plan, and with an intimation in cases of proposed erection at less than the prescribed distance from the centre of the roadway, that the communication is to be treated as the Council's communication within the meaning of Section 13 of its (the Council's) Act, and that the Council will take into consideration of the application it should think it ought to be granted.

Whenever plans of new streets are approved a condition is to be attached that the name of each street, as approved by the Council, shall be affixed on posts at both ends of such streets, until the houses are built, when the name shall be affixed according to law.

Whenever plans of new streets to be laid out for foot traffic only are sanctioned, a condition is to be attached binding the applicant to pave the same over the entire surface, and by posts, lanes or otherwise, to prevent the same from being used for carriage traffic.

Whenever the Council has approved of a plan for the formation of a street to be laid out for carriage traffic, and open at both ends, the applicant is to be cautioned that if at any time, without the written consent of the Council, any posts or other obstructions are placed across the carriage way to prevent the access of carriages, he will be liable to prosecution under section 139.

PART III.—LINES ON BUILDINGS FRONTAGE.

On the receipt of an application to erect or extend buildings beyond the general line of frontage, such application, together with copies or tracings of so much of the drawings accompanying the application as may be sufficient for identifying the property proposed to be dealt with, and explaining the object of the application, is to be communicated to the Local Authority of the district in which the site is situated; and the Local Authority is to be apprised that the Council will be prepared to receive any suggestions they may deem it desirable to make upon the subject within fourteen days. Also a notice that such application has been made shall be sent to the owner and occupier of the nearest building on each side of the proposed building; and no such application shall be brought before the Committee until after the expiration of fourteen days from the date of such notice.

PART IV.—RENAME AND SIGNAGE OF STREETS.

Whenever application is made for the re-naming of a street, or the re-numbering of houses, the Local Authority in whose jurisdiction the same may be renewed is to be asked to state its views on the subject. The decision of the Committee shall be reported to the Local Authority, and notice-board shall be attached to two or more lamp-posts in the street for the period of one month notifying the intention of the Council. At the expiration of the time any protests that may have been received shall be reported to the Committee.

When an order has been made by the Council for naming a street or re-numbering houses, an officer appointed by the Superintendent Architect is, at the expiration of three months from the transmission of the order to the Local Authority, to inspect the street in respect of which the order has been made, and to report to the Committee any non-compliance with the terms thereof.

Immediately after the making of an order for the re-naming of any

street, an intimation thereof is to be sent to the Post Office authorities.

PART VI.—C.

Applications for projections under section 73 are to be treated in the same way as applications under Part III., except that in the case of projections over the rear communication to the Local Authority it is to be omitted.

PART VII.—SPECIAL AND TEMPORARY BUILDINGS, &c.

On an application being made by the tenant or owners of any temporary building for an extension of the period already granted by the Council, the District Surveyors shall be requested to inspect the structure and certify as to the condition, and as to its stability for use for such further period as may be applied for, and also as to the repairs requisite for adding additional strength to the building.

A register is to be kept by the Superintendent Architect, showing the periods for which temporary buildings are licensed by the Council, and whenever a building is not removed at the expiration of the term specified in the license, he is to report the fact to the solicitor, who is forthwith to write and caution the holder of the license, and report the result to the Committee.

REMARKS.

The following regulations are to be enforced by the Council as regards buildings around or on vacant land.

No existing buildings to be increased in height so as to exceed twelve feet.

No new buildings to be erected exceeding twelve feet in height.

Existing buildings exceeding fifteen feet in height to be reduced to that height within six months of notice given.

PART XI.—DWELLING HOUSES AND NON-LIVING LAND.

Regulations made by the Council under section 123 with the concurrence of the Tribunal of Appeal.

It shall be lawful to place the underside of the lowest floor of any permitted building at such a level as will render it liable to flooding, and every permitted building shall be efficiently and properly drained to the satisfaction of the Engineer for the time being of the Council, either into a local sewer or into a main sewer of the Council.

Regulations made by the Council under section 123 with the concurrence of the Tribunal of Appeal.

Every person who shall be desirous of erecting or adapting any building to be used wholly or in part as a dwelling house on any land in the county of London, of which the surface is below the level of Trinity high water mark and which is in an estate as not to admit of being drained by gravitation into an existing sewer of the Council, shall first make a written application for a license. Such application shall be addressed to the Clerk of the Council.

Such application shall contain a statement as to the nature and extent of the interest of the applicant in the building or buildings proposed to be erected or adapted, and be accompanied by a plan and section of the lowest floor of such building or buildings, and the carriages thereof to a scale of 1/4 inch to a foot, and by a block plan to a scale of not less than 1/2500 (which may be on a sheet or sheets of the Ordnance Survey, or may be drawn on tracing linen), showing the position of such building or buildings and the local sewer into which it is proposed to drain such building or buildings, and the connection of such local sewer with an existing sewer of the Council. Such plans and sections shall be accompanied by a description of the materials to be used in the construction of such building or buildings, and shall be enclosed in accordance therewith. The points of the compass shall be marked on the block plan.

The position and course of the drainage system proposed to be adopted for the disposal of sewage and rain water, and its connection with an existing sewer of the Council, shall be clearly shown on the plans and sections, and the diameter and dimensions of the drain pipes shall be figured thereon.

The plan and sections shall also indicate in figures the level above or below Ordnance datum at which it is proposed to construct the floor of the lowest rooms.

The decision given by the Chief Engineer of the Council upon such application shall be reported to the Building Act Committee and the Committee shall report it to the Council, and thereupon, if it is the effect that the erection or adaptation may not be permitted, the Clerk of the Council shall by letter inform the applicant that the Council, acting upon the decision of the Engineer, has refused permission. If it is the effect that the erection or adaptation may be permitted, a license under the seal of the Council, in conformity with the conditions of the Engineer's decision shall be issued to the applicant.

1st January, 1895

Olddress Registers.

1. ARCHITECTS. 2. ECCLESIASTICAL SURVEYORS.

3. COUNTY SURVEYORS. 4. SURVEYORS TO PUBLIC AUTHORITIES. 5. BUILDERS.

✻ I. Architects. ✻

LONDON, + PROVINCIAL, + SCOTLAND. · WALES, + IRELAND.

LONDON.

(1) *Fellow of Royal Institute of British Architects*

[a] *Associate of Royal Institute of British Architects.*

+ Member of Society of Archivists. * Surgeon.

Abbott, E. W. & W. Court, Hickory, W. C.
Abbot, John O. P. 81, Chapel Cove, W. C.
Abbot, John, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908,

2. **Barlow, G. C.** and **Grand Washington St. E.C.**
 3. **Baker, J. F.** and **Thurill, Washington House, Franklin St.**
 4. **Baker, W. & Son, Albany Hills, 20, Victoria St.**
 5. **Baker, Chas. O., M.B. Baking Mill, Canning Town, E.**
 6. **Barlow, Thomas Gravelly, & Thompson, St. W.**
 7. **Baker, C. W. & Co. Livery Stables, 1, W. B. C.**
 8. **Barlow, Wm. Wells, 28, Lincoln St. W. B. C.**
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[illegible]

- *Holliday, Stephen J., 25, Victoria St., E.W.
 Hollingsworth, H. J., 21, Old Cavendish St., W., and 27, Clarendon Rd., Piccadilly, E.C.
 *Holman, George, 10, F.R.I., 100, New Rd., E.
 *Homer & H. 20, Bucklebury, E.C.
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Cheshire—continued.

James, John, 1, Heath-Rd Avenue
Lau, T., Harncliffe Rd
Mackworth and Wright, John St
Pate, J. B., Elizabeth Villa, Market
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Dover, Geo., Main St
Lofter, John, Newton

HILL

Barker, E., Albert Rd, Brookwood
Rampson, Jas., 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

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Cheshire—continued.

Wain, W., Chapel Rd, Brookwood
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Derbyshire—continued.

Rose, W., High St.
Tyrin, G.
Turgeman, G., South St.

MATLOCK.

Ashby, W. B., Matlock Bridge
Bridge, A. B., Matlock Bridge
Eveling, W. & Son, Matlock Bank
Robinson, J., Matlock Town
Sturges, W., Matlock Town
Whitmore, L. T., Matlock Bank

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Drabble, John

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Bentley & Warrington, Elms
Field Saw Mills
Rafford, T. W., Chapel St.

NILESLEY, near CHESTERFIELD.

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Ross, Charles

Spencer, Geo

RIDINGS, ALFRETON.

Broadbent, A. G.

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Cover, W.

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Flower, J., Green Hill

Horne, W. Mariner

Leacock & Co.

Norman, W., Mariner Cottages

SANDLING.

Bailey, Wm., The Hill, Derby Rd.

Establie, G., Derby Rd.

SKELTON, ASHBORNE.

Thurley, Wm.

SOUTH NEWTON.

Wooten, E., Saw Mills

SOUTH WINGFIELD, ALFRETON.

Trasson, W.

Devonshire.

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Proden, J. E., Aquitt V.

Stevens, E., Aquitt V.

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Clend, G., South St.

Farnham, W., South St., Alfreton

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Glass)

Bolt & Engel, Newport (Painters

and Glaziers)

Berwick, T., Victoria St., Alfreton

Bennett, J., Lionel St., Alfreton

Beynon, J. & Son, Bear St. (Stone

Masons)

Boyle, J., Bear St. (Stone

Masons)

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Masons)

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Boyle, J., Bear St. (Stone

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Boyle, J., Bear St. (Stone

Masons)

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Stote, S. & Sons

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STAPLETON, Chesterfield.

Stote, S. & Sons

Devonshire—continued.

Brund, C. & Middleton St., Painter
Carr, Lamerton, Church Walk, and
Ellis, T., 47, Hill St.

Fuller, W. L. & Son, 21 and 22,
Horseferry St.

Goss, W. E., Chalmers St.

Harding, George, 60, Harbour

Harris and Sons, 10, 11, 12, 13,
14, 15, 16, 17, 18, 19, 20, 21, 22, 23,
24, 25, 26, 27, 28, 29, 30, 31, 32, 33,
34, 35, 36, 37, 38, 39, 40, 41, 42, 43,
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Kent—continued.

Martin & Wells
See List & Town

SITTINGBURY.

Bishop, E., Albany Rd.
Gough, B., Green Rd.
Morse, T., Tynan Rd.
Paver & Hunt, 15, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510, 512, 514, 516, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 622, 624, 626, 628, 630, 632, 634, 636, 638, 640, 642, 644, 646, 648, 650, 652, 654, 656, 658, 660, 662, 664, 666, 668, 670, 672, 674, 676, 678, 680, 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 702, 704, 706, 708, 710, 712, 714, 716, 718, 720, 722, 724, 726, 728, 730, 732, 734, 736, 738, 740, 742, 744, 746, 748, 750, 752, 754, 756, 758, 760, 762, 764, 766, 768, 770, 772, 774, 776, 778, 780, 782, 784, 786, 788, 790, 792, 794, 796, 798, 800, 802, 804, 806, 808, 810, 812, 814, 816, 818, 820, 822, 824, 826, 828, 830, 832, 834, 836, 838, 840, 842, 844, 846, 848, 850, 852, 854, 856, 858, 860, 862, 864, 866, 868, 870, 872, 874, 876, 878, 880, 882, 884, 886, 888, 890, 892, 894, 896, 898, 900, 902, 904, 906, 908, 910, 912, 914, 916, 918, 920, 922, 924, 926, 928, 930, 932, 934, 936, 938, 940, 942, 944, 946, 948, 950, 952, 954, 956, 958, 960, 962, 964, 966, 968, 970, 972, 974, 976, 978, 980, 982, 984, 986, 988, 990, 992, 994, 996, 998, 1000.

SITTINGBURY.

Bishop, W. W.
Jaggs, R. H. H. H.
Tait, T. B. B. B.
Wiltford, J. May Rd.

SITTINGBURY.

Coatland, C. J. 25, Tynan Rd.
Hudson, T. Hides Park

SITTINGBURY.

Leese, C. High St.

SITTINGBURY.

Ball & Gough
Denton & Co., Carter Rd.
Roberts, Charles R., Jersey Rd.
West, J. Haden Rd.
West, J. South Wain Rd.

SITTINGBURY.

Wheaton, W. Main Rd.

SITTINGBURY.

Lamb, J. High St.

SITTINGBURY.

Wheaton, W. Main Rd.

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STRANGE & SONS

See List & Town

TUNBRIDGE WELLS

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Lancashire—continued.

Kirkby, E. Blandford St.

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Lincolnshire—continued.

LIMINGHAM

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LIMINGHAM

Cruslow, J., Alford Rd.
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LIMINGHAM

Hanks, J. & Son, 79, West Bank
 1. 1. 1. 1.

LIMINGHAM

Levensley, William, Donkey St.
 1. 1. 1. 1.

LIMINGHAM

Munder, W. & Son, West End
 1. 1. 1. 1.

LIMINGHAM

Rowman, Edward, Donkey St., North
 1. 1. 1. 1.

Middlesex.

MIDDLESEX

Robinson & Partners
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MIDDLESEX

Burner, J. 33, High Rd.
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Burner, J. 33, High Rd.
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T. J. Adamson & Sons,

Builders

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J. F. COLLINSON,

BUILDER AND CONTRACTOR

STANLEY Rd., Teddington.

Works executed include—

New Workshops, for the Royal

Kent, Chas. W. E. R. R.

New Church & other Additions

to Hampton Church, £3,500

New Library, Wandsworth

Bridge Rd., Putney, M. R.

New School, Page's Walk, Ber-

mington, £2,500

New School, £2,500

New School, £2,500

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Nottinghamshire.

Nottinghamshire—continued.

ALCOCK, Arthur, Fount St.
 Herring, J., Front St.
ALBERTON, Newark
 Johnson & Young, Grove St., New
 Publication
 Wain F
BARFORD (OLD AND NEW),
 Nottingham
 Cargill, John, 44, Duke St., New East
 Ford
 Evans, F., Ashwell Rd., Old Barford
 H. & W. J., & Son, Lincoln St.,
 Old Barford
 Ingham, R. & Son, 4, New Rd.,
 Old Barford

BENTON
 Fletcher, W. M. & Son, High Rd.
BIRTH
 GOSWELL, R.

BURTON
 Cant, Albert
 H. & W. J., Main St., Newark
 New J. & Son, Drury St., and
 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 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1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 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2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162,

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 Street, Oxford
MIDDLE RAIL
 Granville, W.
MILTON FINDER-WYTHWOOD
 Groves, A.M.
NETTLEBOLD, Stratego-Thames
 Hodge, E.
NORTH NEWINGTON, Aylesbury
 Paul, S.
 Harris, F.
OFFICE
 Ashby, Thos., 8, St. Aldate's St.
 Bayfield & Lacey, 10, Bulington
 Old
 Bennett, J., East Avenue, Cowley
 Old
 Brackley Bros., 8, St. John's Rd.
 Cardin, H. J., Pembroke St., Cowley
 Old
 Curtis, C., 17, George St.
 Falsfield, H., 17, Kingston Rd.
 Kesteven & Son, 31, Holway St.
 Martin, F., 24, Divinity Rd.
 Mistry, J., 122, Kingston Rd.
 Ogden Bros., 26, Cowley Rd.
 Ogden, J. R. & Co., 44, Little
 Chancelin St.

Wolke Bros., Walton Wat. Rd.
 Worthington, J. Thacker, 10
 Wyth, H. J. & Son, 47, St. John
STON & SON
 Cox, J.
THAY
 Wells & Son
WHITEHEAD, Aylesbury
 Gossard, J.
WITTS
 James, W. W. 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Shropshire—continued.

WELLINGTON
 Bright, Jonathan, Task Bank
 Parvett, Thos., Lady Crut. Rd.
 Thorne, Chas., Winton Rd.
 Edwards, Thos., King St.
 Roper, Alfred
W&H
 Tansley, C. M., 4, Noble St.
WEST FELTON, Aylesbury
 Vaughan, J., & Sons
WITTS
 Corfield, J., 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Rutlandshire.

COTTONHORN, Oakham
 Hollis, Henry
NORTH LAFEN IN SHROPSHIRE
 Dickens, Thos. W.
GRANHAM
 Chubbington, M., Whitson
 Nicholas, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350,

Somersetshire continued.

Holmes, J., & Sons, Broadway
Purcell, T. J., N. 100, 100
Smyth, T. J., N. 100, 100
Smyth & Sons, Ark. Mill, Winton
Cork St.
Valle, J., Churchyard St. East

St. M. 1
Pier, H. T., Dunhill St.
Boulton, W. H., 10, Marlborough St.
Merritt, W. H., 10, Marlborough St.
Merritt, W. H., 10, Marlborough St.
Merritt, W. H., 10, Marlborough St.
Merritt, W. H., 10, Marlborough St.
Merritt, W. H., 10, Marlborough St.
Merritt, W. H., 10, Marlborough St.

WENTWORTH, W. H.
Chas. J., High St.
Crombie, John.

W. H. FIDGIE, W. H.
Cox, Chas., 100
Hutch, Fredk.
Hutch, John

HOLCOMBE, W. H.
Hutch, Fredk.
Hutch, John

ILMSTER
Bendon, Wm., Yorkhill

ILMSTER
Bendon, Wm., Yorkhill

ALEXANDER POOLE,
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Works executed include:
Bendon, Wm., Yorkhill
Bendon, Wm., Yorkhill
Bendon, Wm., Yorkhill
Bendon, Wm., Yorkhill
Bendon, Wm., Yorkhill
Bendon, Wm., Yorkhill
Bendon, Wm., Yorkhill
Bendon, Wm., Yorkhill

WENTWORTH, W. H.
Chas. J., High St.
Crombie, John.

JAYNE, F. R. O.
Dettard, H.

JAYNE, F. R. O.
Dettard, H.

MARTIN, F. R. O.
Dettard, H.

MARTIN, F. R. O.
Dettard, H.

MARTIN, F. R. O.
Dettard, H.

MARTIN, F. R. O.
Dettard, H.

MARTIN, F. R. O.
Dettard, H.

W. H. FIDGIE, W. H.
Chas. J., High St.
Crombie, John.

W. H. FIDGIE, W. H.
Chas. J., High St.
Crombie, John.

W. H. FIDGIE, W. H.
Chas. J., High St.
Crombie, John.

W. H. FIDGIE, W. H.
Chas. J., High St.
Crombie, John.

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Chas. J., High St.
Crombie, John.

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Crombie, John.

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Crombie, John.

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Crombie, John.

W. H. FIDGIE, W. H.
Chas. J., High St.
Crombie, John.

Somersetshire continued.

W. H. FIDGIE, W. H.
Chas. J., High St.
Crombie, John.

W. H. FIDGIE, W. H.
Chas. J., High St.
Crombie, John.

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Crombie, John.

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Chas. J., High St.
Crombie, John.

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BUILDER AND CONTRACTOR,
Elmleigh, Stafford Road,
Weston-Super-Mare.

Works executed include:
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Elmleigh, Stafford Road,
Weston-Super-Mare.

Elmleigh, Stafford Road,
Weston-Super-Mare.

Elmleigh, Stafford Road,
Weston-Super-Mare.

Elmleigh, Stafford Road,
Weston-Super-Mare.

Elmleigh, Stafford Road,
Weston-Super-Mare.

Elmleigh, Stafford Road,
Weston-Super-Mare.

Elmleigh, Stafford Road,
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Elmleigh, Stafford Road,
Weston-Super-Mare.

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tectural Wood Carvers,
13, SADDLER STREET, WELLS,
SOMERSET.

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SOMERSET.

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SOMERSET.

13, SADDLER STREET, WELLS,
SOMERSET.

13, SADDLER STREET, WELLS,
SOMERSET.

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SOMERSET.

Staffordshire.

Staffordshire.

Staffordshire.

Staffordshire.

Staffordshire.

Sussex—continued.

Cam., A. & Sons, 7, Springfield Rd.
and 50, Preston Rd.
Creswell, A. & W. Western Rd. Hove
Davy Bros., 70, Boscawen Rd.
Day, W. P. & S. The Arches,
Bournemouth
Dean, A. & S. 30, T. Road at Rye
Edwards, W. & A. 15, Hampton Pl.
Field, E. & W. Upper Limes Rd.

ESTABLISHED 1850.

W. A. FIELD AND CO.,
BUILDERS.20, PRESTON STREET,
BRIGHTON.Works executed during the last
thirteen or four years include—

French Protestant Ch., Bognor
24, J. G. Gibson & Co. Archt.
Warehouses & Dwelling House,
Queen's Rd., S. Dennis, Eng.,
Archt.
Black Brewery, Dwelling House,
St. James's Street, S. Dennis,
Eng. (drainage being of rubber brick-
work)
Seven Ships, Victoria St., West
Brighton, Chas. Wm. Esq., Archt.
Leisure in South Western Bank,
Bournemouth
Inn, in West Street, Bournemouth
and in Ch. Esq., Archt.
London & Country Bank, New
St. and 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000, 1001, 1002, 1003, 1004, 1005, 1006, 1007, 1008, 1009, 1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017, 1018, 1019, 1020, 1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1034, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043, 1044, 1045, 1046, 1047, 1048, 1049, 1050, 1051, 1052, 1053, 1054, 1055, 1056, 1057, 1058, 1059, 1060, 1061, 1062, 1063, 1064, 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073, 1074, 1075, 1076, 1077, 1078, 1079, 1080, 1081, 1082, 1083, 1084, 1085, 1086, 1087, 1088, 1089, 1090, 1091, 1092, 1093, 1094, 1095, 1096, 1097, 1098, 1099, 1100, 1101, 1102, 1103, 1104, 1105, 1106, 1107, 1108, 1109, 1110, 1111, 1112, 1113, 1114, 1115, 1116, 1117, 1118, 1119, 1120, 1121, 1122, 1123, 1124, 1125, 1126, 1127, 1128, 1129, 1130, 1131, 1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140, 1141, 1142, 1143, 1144, 1145, 1146, 1147, 1148, 1149, 1150, 1151, 1152, 1153, 1154, 1155, 1156, 1157, 1158, 1159, 1160, 1161, 1162, 1163, 1164, 1165, 1166, 1167, 1168, 1169, 1170, 1171, 1172, 1173, 1174, 1175, 1176, 1177, 1178, 1179, 1180, 1181, 1182, 1183, 1184, 1185, 1186, 1187, 1188, 1189, 1190, 1191, 1192, 1193, 1194, 1195, 1196, 1197, 1198, 1199, 1200, 1201, 1202, 1203, 1204, 1205, 1206, 1207, 1208, 1209, 1210, 1211, 1212, 1213, 1214, 1215, 1216, 1217, 1218, 1219, 1220, 1221, 1222, 1223, 1224, 1225, 1226, 1227, 1228, 1229, 1230, 1231, 1232, 1233, 1234, 1235, 1236, 1237, 1238, 1239, 1240, 1241, 1242, 1243, 1244, 1245, 1246, 1247, 1248, 1249, 1250, 1251, 1252, 1253, 1254, 1255, 1256, 1257, 1258, 1259, 1260, 1261, 1262, 1263, 1264, 1265, 1266, 1267, 1268, 1269, 1270, 1271, 1272, 1273, 1274, 1275, 1276, 1277, 1278, 1279, 1280, 1281, 1282, 1283, 1284, 1285, 1286, 1287, 1288, 1289, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297, 1298, 1299, 1300, 1301, 1302, 1303, 1304, 1305, 1306, 1307, 1308, 1309, 1310, 1311, 1312, 1313, 1314, 1315, 1316, 1317, 1318, 1319, 1320, 1321, 1322, 1323, 1324, 1325, 1326, 1327, 1328, 1329, 1330, 1331, 1332, 1333, 1334, 1335, 1336, 1337, 1338, 1339, 1340, 1341, 1342, 1343, 1344, 1345, 1346, 1347, 1348, 1349, 1350, 1351, 1352, 1353, 1354, 1355, 1356, 1357, 1358, 1359, 1360, 1361, 1362, 1363, 1364, 1365, 1366, 1367, 1368, 1369, 1370, 1371, 1372, 1373, 1374, 1375, 1376, 1377, 1378, 1379, 1380, 1381, 1382, 1383, 1384, 1385, 1386, 1387, 1388, 1389, 1390, 1391, 1392, 1393, 1394, 1395, 1396, 1397, 1398, 1399, 1400, 1401, 1402, 1403, 1404, 1405, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426, 1427, 1428, 1429, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1437, 1438, 1439, 1440, 1441, 1442, 1443, 1444, 1445, 1446, 1447, 1448, 1449, 1450, 1451, 1452, 1453, 1454, 1455, 1456, 1457, 1458, 1459, 1460, 1461, 1462, 1463, 1464, 1465, 1466, 1467, 1468, 1469, 1470, 1471, 1472, 1473, 1474, 1475, 1476, 1477, 1478, 1479, 1480, 1481, 1482, 1483, 1484, 1485, 1486, 1487, 1488, 1489, 1490, 1491, 1492, 1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1507, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 1664, 1665, 1666, 1667, 1668, 1669, 1670, 1671, 1672, 1673, 1674, 1675, 1676, 1677, 1678, 1679, 1680, 1681, 1682, 1683, 1684, 1685, 1686, 1687, 1688, 1689, 1690, 1691, 1692, 1693, 1694, 1695, 1696, 1697, 1698, 1699, 1700, 1701, 1702, 1703, 1704, 1705, 1706, 1707, 1708, 1709, 1710, 1711, 1712, 1713, 1714, 1715, 1716, 1717, 1718, 1719, 1720, 1721, 1722, 1723, 1724, 1725, 1726, 1727, 1728, 1729, 1730, 1731, 1732, 1733, 1734, 1735, 1736, 1737, 1738, 1739, 1740, 1741, 1742, 1743, 1744, 1745, 1746, 1747, 1748, 1749, 1750, 1751, 1752, 1753, 1754, 1755, 1756, 1757, 1758, 1759, 1760, 1761, 1762, 1763, 1764, 1765, 1766, 1767, 1768, 1769, 1770, 1771, 1772, 1773, 1774, 1775, 1776, 1777, 1778, 1779, 1780, 1781, 1782, 1783, 1784, 1785, 1786, 1787, 1788, 1789, 1790, 1791, 1792, 1793, 1794, 1795, 1796, 1797, 1798, 1799, 1800, 1801, 1802, 1803, 1804, 1805, 1806, 1807, 1808, 1809, 1810, 1811, 1812, 1813, 1814, 1815, 1816, 1817, 1818, 1819, 1820, 1821, 1822, 1823, 1824, 1825, 1826, 1827, 1828, 1829, 1830, 1831, 1832, 1833, 1834, 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842, 1843, 1844, 1845, 1846, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1855, 1856, 1857, 1858, 1859, 1860, 1861, 1862, 1863, 1864, 1865, 1866, 1867, 1868, 1869, 1870, 1871, 1872, 1873, 1874, 1875, 1876, 1877, 1878, 1879, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, 1892, 1893, 1894, 1895, 1896, 1897, 1898, 1899, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145,

Yorkshire continued.

Atkinson, E., & Son, Carlton Hill and Juxon
 Bairstow, Robt., 125, Skirrow Lane
 Plasterers
 Barker, W., 11, Blackburn Lane
 Barwell, W. & Co., Woodhouse Lane
 Farnham
 Bateson, A., Columbia St. Painter
 Bedford, J. R., Chapeltown Rd
 T. Miller
 Beeson, J., New Brigatone Johnes
 Birnes, J., 68, Bagin Rd
 Birchall, W., & Son, Crofton St.
 W. J.
 Bird, Thomas, 41, Green St. Plumber
 and Glazier
 Bird, Thomas, 11 & Co., Stannington
 Furnace
 Brattin, R., Levens Road. Plasterer
 Briggs, S., Park Cross St. Marble
 Slabs
 Briggs, Wesley, Sheepscar St. Plumber
 & Glazier
 Brown, H., Thornhill Ter. W. J.
 Brown, J., & Son, 11, 20 W. J.
 L. J. & S. L. Lathouse 1, L. J.
 Brown, Richard, 12, Oatland Avenue
 and Rd
 Burns, G., Water Lane
 Burton, J., Mill St. Painter
 C.M.A., 3, Kirkstall St. Plasterer
 Cuckson, S., Chapel-Altton
 Cuckson, A. W., 10a, Farland St.
 Slater
 Cogan, T., Great George St. Plasterer

GRAVEN & UMBLEY

JOINERS, BUILDERS AND CONTRACTORS.

HARTLEY HILL

LEEDS.

Works Executed include—

City Markets Extension, A. W.
 Moss & Son, Engineer, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Cartis, J. & Son, S. Wade St.
 Davidson, J. L., Woodhouse St.
 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

Herzington, W., 141, Fenton St.
 Plaster
 Hirst, J., Mireless Lane, Armley
 Plaster
 Hind, A., Hemdall Rd Plumber
 & Glazier
 Hindswell, W., Leighton Lane
 Plumber
 Hoggins, Jas. M., 31, Greenhalgh,
 Appleby Bridge Juxon
 Horsfield, John, Crown Yard, Tiger
 Head Row, Carpenter
 Houghton, T. H., Mark Lane Jones,
 & Son
 H. South, 100, Armley Road,
 Leeds
 Hunsford, James, East Parade
 Plumber
 Hurd, John, 74, Ashby Rd
 James, Herbert, Greenacre, Applegate
 & Son
 Ingham, J. & Son, St. Stephen's
 Rd., Hunsford, James
 Irwin, W. & Co., 2, Burley Rd
 Jackson and Mookman, Kirkstall
 Street, Juxon
 Jackson, T. & Co., 37, Park Row
 Painters and Decorators
 Jackson, C. E., Collier, Hill
 Jackson, J., Hyde Park Corner
 & Son
 Jell & James, Joseph St., Hunsford
 Kirby, Robert, St. Peter's Bay
 Keville, R., Tiger Worley St.
 Kington, H., Hunsford's York, Marsh
 Lane, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 30

Scotland—continued.

BAERY.

Tait, D. & J., Thornfield Rd.
Paisley.

BAFFLE, R.S.O.

Mar. Robt. Hume St. (Joiner)
Bainin, John, Broadwood Rd.
(Joiner)

BANK.

Free, W. Joiner
Lowrie, R. & J. (Slater)
Kemp, H. & Son, (Joiners)
Paul, J. & Son

BANDWALL.

Bowdler, Jas. High St. (Plumber)
(American, H. Wood, 44, Slater)
Gibson, A. M. & Son, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 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Scotland—continued.

Leach T. & Son, Scotman Place
 (Plasterers)
 Leslie, Chas. Jewanich Rd. John
 Law & Son, 10, Greenhill Road
 (Joiners)
 Lawson, W. & Son, 10, Ring St.
 (Plasterers)
 Little, J., Morrison St. (Plasterer)
 Little, J., 15, Henderson St. (Plumber)
 Little, Wm., 7 & 9, Perth Road
 Law & Son, 74, 1 York St. (Joiners)
 Lennie, J., Glasgow Park Joiner &
 (Plasterer)
 Macdonald, J., 104 Leith Loan
 (Joiner)
 Macdonald, C. 13, Lauriston place.
 Joiner & Mason
 Macdonald, J., 2 Dundas St., Plumber
 (Plasterers)
 Macdonald & Wallace, 9, Randolph
 St. (Plasterers)
 Macdonald, R. & Son, Cameron's
 Bridge (Architects) Sculptors
 Macdonald, D., 5, Warrander Park
 (Plasterer, Mason)
 Macdonald & Morton, Upper Green
 75, Hunting Glasgow
 McKenna Bros., Glasgow Park (Joiners)
 McKenna, Wm., Hope Park Terrace
 (Mason)
 McLean, J. M., Seacroft
 Macdonald, —, 4, West Cross Cana-
 way
 McLeod, W. 4th Dundee Ter. (Mason)
 Martin, P. H., Grove St. (Plasterer)
 Martin, J. N., Dundee Ter. (Plaster-
 er)
 Mackay & Philip, Torphichen St.
 (Plasterers)
 Math, P., 116, Warrander Park Rd.
 (Joiner)
 Matheson & Robertson, 4, Ladyfield
 St. (Joiner)
 Miller & Whyte, 15, George St. (Joiner)
 Miller, J. J., Marchmont St. (Mason)
 Mitchell, Alex., 40, Dundee Hill
 (Mason)
 Mitchell, J. & Son, Banters Farm
 (Masons & Joiners)
 Montgomery, H. T. & R., North
 Merchiston Avenue (Joiners)
 Morris, John, & Son, 19, Torphichen
 St. Road & Bath (Joiners)
 Macdonald, Andrew & Son, 11, Leslie
 St. (Joiners)
 Macdonald, J. T., 104 St. Andrew
 St. (Joiner)
 Patterson, John, 234, Canowatch
 (Joiners)
 Patterson, H. & Son, 4, 2nd Row
 (Plasterers)
 Pearson, D., & Son, Colinton
 (Plasterers)
 Peck, J. & J., 25, Frederick St.
 (Joiners & Tile Layers)
 Peck, D., 4, 4th St. (Joiner)
 Peck, D., 4th & 5th, 13, Rose St.
 (Plasterer)
 Peck & Davidson, 21, Rose St. (Plasterer)
 Peck, J., 21, George, Christian Bank
 (Joiner)
 Reid, Burke, "St. Helena" Can-
 wach 34 (Plasterer)
 Reid, J. & Son, 11, 11th St. Terrace
 (Mason)
 Robertson & Cairns, 11, Sheldon St.
 (Plasterers)
 Ross, D., 6, 6th, Henry Place (Plaster-
 er)
 Ross, G., 115, St. Leonard's Street
 (Plasterer)
 Ross, J. D., Davidson St. (Plasterer)
 Richardson, J., 20, 34, Haymarket
 East (Plasterer)
 Scott & Davis, 25, Morton St. and
 (Plasterers)
 Scott, A. & Son, Glasgow Park
 (Joiners)
 Simpson & Taylor, 17, Upper Gray
 St. (Masons)
 Sinclair, P., & Son, Angle Park Ter.
 St. (Mason)
 Slater, J., 112, Easter Rd. (Mason &
 Plasterer)
 Smith, Thos., Upper Grove Place
 (Joiner)
 Smith, W. H., 11, Dundas St.
 Smith, T. & Son, 4, Randolph St.
 (Joiners)

Smiley, J. S., Spentwood Road
 (Mason)
 Stalker, Robt., & Son, 15, Lothian
 Rd. (Plasterers)
 Steel, J. T., Torphichen St. (Mason)
 Stevens, D., 15, Howe St. (Plasterer)
 Stewart & Mac, 114, George Street
 (Plasterers)
 Stoddart, W., 38, Newington Rd.
 (Plasterer)
 Strickland, J. W., 6, 2, 3, Upper Gray
 St. Road (Contractors)
 Stuart's Grandville Paving Co. Ltd.,
 4, Torphichen Place (Plasterers)
 Buchanan, D., & Son, 124, Hamilton
 Place and 63, Inverhill Row
 (Joiners)
 Tait, Thos., & North St. Andrew St.
 (Joiner)
 Thomson, Robert, Dalry Road
 (Plasterer)
 Thompson, R. & Son, 118 & 117,
 Randolph Street (Mason)
 Turner, W. & Son, 16, Torphichen St.
 (Mason)
 Watson, R., 143, New Street (Plaster-
 er)
 Waddell, Andrew, First Street, Road
 and Drum (Contractors)
 Walker, J., 34, Morrison Street
 (Plasterer)
 Walker, P., 20, West Nicolson Street
 (Plasterer)
 Walbridge, J., & Son, 23, Queens-
 bury St. (Joiners & Masons)
 Wain, G. Gilbert, Warrander Terrace
 Watson, James, Brydon Road North,
 (Joiner)
 Watson, Wm., Arbroath Road
 (Joiner)
 Watson & Son, 2, Lothian Street
 White, A., 18, Duff Street (Mason)
 White, J., 10, 11, 12, 13, 14, 15, 16, 17, 18,
 Andrew Street (Plasterers)
 White, John, 15, Clapham Drive
 Whyte, J. S., 10, George Street Works,
 Glasgow Park (Mason)
 Widdell, R. J., 1 & 15, North Street,
 Dundee Street (Plumber)
 Wilson, J. G., 24, Freeland Street
 (Joiner)
 Wilson, T. & R., 25, Bogo Street
 (Joiners)
 Wood, D., 100, Polterweg (Joiner)
 Young & Son, 113, Newland Street
 (Joiners)
 Young, J. & Son, Byrom Rd.
 (Joiners)

ELGIN.

Brosie, J. (Plasterer)
 Cameron, J., Beach St. (Plumber)
 Clark, J. & Son, Richmond Place (Plaster-
 er)
 Clark, A. & R., 25, Brough St.
 (Joiner, Plasterer)
 Clark, J., 10, 11, 12, 13, 14, 15, 16, 17, 18,
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 1689, 1690, 1691, 169

Scotland—continued.

Kell, Walter, Wilmshill St.
 Adams
 Miller, F., Hamilton St. (Slater)
 Miller & Ferguson, Union St.
 Moore
 No record, Longman Woodstock
 St. John's
 Parker, J., Haverhill St., Mass.
 Tucker, Jas., Brandon St. (Slater)
 Putnam & Co., Portland, Me.
 and Masters
 Fitch, Albert, Brandon St. (Slater
 and Haverhill)
 Ross, C. C., Portland, Me. (Woods
 Street)
 Stone, T. C., Call St.
 and J. A. J. Merry St. (Slater and
 Portland)
 Wadell, Wm., Merry St. (Mass)

H. C. K. & K. T. Lee

Younger, B.
WIFE-OF-OFD
Marvinkuh, A., & Sons
Tins, & Machinery

MT. P. & ME. J. DEPT. M.

Dumas, W & C, Masons,
MFS-BELLB-A-GH
Hanks & Son, Inverness Rd., Masons
Hartin, W., & Sons, 71, High St.
Broad, H. & Sons, Milldail, Masons
Dr. John Jas. Jones
Duncan, W. Maitland, Joiner
Henderson, Jas., High St. Plaster
McEwen, A. & P., Green St. Plaster
New, D., High St. Plaster
Williamson, J., Plaster

YAN WELLSMAN
Cookery, John
Garnsey, H.
Schmidt, Dr. J. J. J. J.

J. R. H. MITCHELL

Brown, James, Jameson Ter
Brown, John, James
Crout, J., Main St. Junior
Marr J., Kershaw St.
McCall, A. & R., Grey St. Junior
Mum, W., Jameson Ter. Bricklayer
Stickle, H. Jun., Brown St. Junior
Wallace, Moses, Grey St. Junior

Environ. Biol. Fish. (2015) 98:1029–1040

Detenworth, & Ranlow Plumbago
Junk, J. S. 1 hammer
Meyers, David (Mason
T. J. H.

11.6.11. 2-438. 2005. 11. 1. 10-12.

Agnew, J.

J. H. Coon

Glass, Jas., Marston Rd. Marston
Wickhampton. Peter. 8 Soke

Cowan, D. Murray Rd. Junior
 Gray, Alex. L., Broadbalks St.
 Plaster
 McCall, Ned, Crescent Rd. Junior
 McDonald, Wm., Broadbalks St.
 Mason
 McInnally, D. & J., Crescent Rd.
 Mason & Junior
 McInnally, J. & A., c. Condon St.
 Junior
 McInnally, John, Glenbalks
 c. Mason
 Mason, D. & A., Broadbalks St.
 Junior
 Poynter, J., Firgrove Villa, Mason

Scotland—continued.

[illegible]

城市内涝

A. Arnold, Chas., 100, High Street
 Baker, J. W.
 Baldwin, J. E., 7, Canal St. (Jewelry)
 Berger, Geo., 47, Iron Works. New
 York
 Bell, A., Canal St. (Saler)
 Berry, J. S. & Wm. Mason
 Briggs, J. D., York Pl. Sculptor
 Brown, J. L. & Son, 1, Charlotte Place
 Brown & Duggan, 32, Kinross St.
 Burns
 Byers, R. & D., South St. Turners
 Buchanan, Cawdwell, & Scott, 41
 Bricklayers
 Hunter, 3, King St. Statues
 Campbell, R. D., 11, St. Andrew St. S.
 & W. 1st St.
 Campbell, Peter, 85, George St.
 Sculptor

[illegible]

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Wales—continued

PENTRANTH, Asphory.
Owen, Rabb., & Sons
PENTRE VOGLAS, Betsey-y-Croft,
R.S.O.
Jones, John, Penlan

PENNGROVE, R S O
Dixons, Leslie
Evans, Peter

Owens, Owen, Llwynnau Cottage,
Ratbert, G. , Seacroft Street

Evans, David & Sons
Marple, Thom., Tyngsboro Rd.

PONTLEOFFEN, via Cardiff.
Davies, John C.

Davies, Robert
Davies, Thomas
Davies, Tom

Morgan, J.

POST-PRANDIAL, *Respiratory*
 Roberts, Thos.

POST: PRIDE
James, Wm., City of Ed
London, England

James, J. H., Bare Rd
Jones, H., Turwest Terrace, Tinsford

1840, M., The Gardens, Cobden-

Swail, H., Condensation Rd.
Swell, J. P., Linnaea Gardens
Tschirke, A., 87, New Rd.
Watson, W., The Green.

William, J., Tywiche Rd

Thames, Matthew, Coopers Row
Thames, W., Merchant Rd.
Thames & Jones, Lincolns 4, 100.

PORT DINGWID

PORT NADOC.

Wm. W. Madsen, 840 N. 1st St.
Wm. W. Madsen, 840 N. 1st St.
Wm. W. Madsen, 840 N. 1st St.
Wm. W. Madsen, 840 N. 1st St.

Robert, G. Penrhyn.
Robert, David Morris, Penrhyn.

PORT TALBOT

POHJATY, 許美貞, 謝淑芬, 謝淑芬

1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

W. H. Matthews,
1000 4th Street, N. W.,
Washington, D. C.

De, J., Broad Street

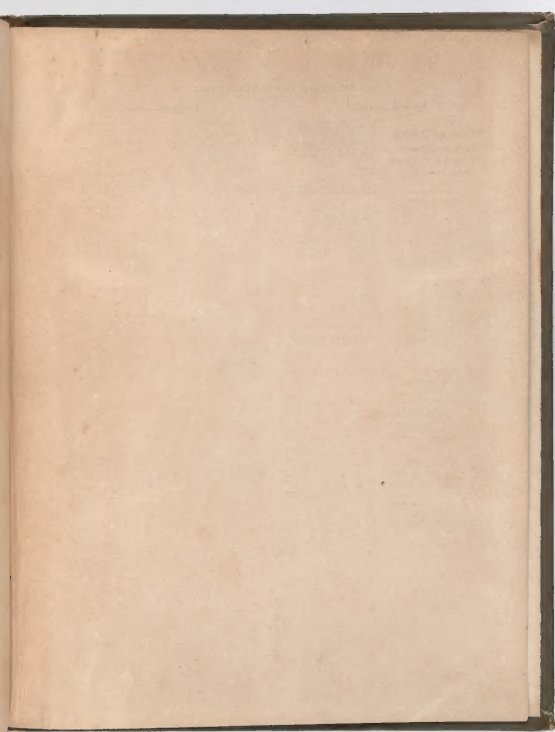
Edith, Wm. & Son (Tailors, &c.)
ruler, John

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 2. Rd. Cua. St
 3. W. Victoria Parade

James, John, Embarkment and
Landing, S. Albrecht Master

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Mrs. G. W. M. East St
 Mrs. I. P. Church St
 Mrs. D. Church St



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